THE

AMERICAN JOURNAL

OF THE

MEDICAL SCIENCES.

JULY, 1841.

ARTICLE I.—*Statistical Researches elucidating the Climate of the United States and its relation with Diseases of Malarial Origin; based on the Records of the Medical Department and Adjutant General's Office.* By SAMUEL FORRY, M. D., of New York.

IN the investigation of that class of diseases generally imputed to sources of malarial origin, designed in the present paper, the same mode of classification, as respects particular systems of climate, will be followed, as that adopted in the article contained in the number of this Journal for January last, entitled "*Statistical Researches relative to the Etiology of Pulmonary and Rheumatic Diseases,*" *&c.*

As the subject of climate in general is but little understood, and as that of the United States presents remarkable extremes, not only in different degrees of latitude but on the same parallels, it is proposed to elucidate still further the climatic peculiarities of the different regions of the United States in a series of condensed tabular results. The classification referred to above is the following:

General divisions of the United States.		*Systems of Climate.*
1. Northern.	1 Class.	Posts on the coast of New England, extending as far south as the harbor of New York.
	2 "	Posts on the northern chain of lakes.
	3 "	Posts remote from the ocean and inland seas.
2. Middle.	1 Class.	Atlantic coast from Delaware Bay to Savannah.
	2 "	Interior stations.

3. Southern. { 1 Class. Posts on the lower Mississippi.
{ 2 " Posts in the peninsula of East Florida.

1. *The Northern Division* presents the greatest variety of climate on the same parallels of latitude. These diverse effects, as was demonstrated in the No. of this Journal for January last, are the result of the modifying agency of the ocean and the lakes. Thus on the seacoast of New England and on the great lakes of our northern frontier, the temperature is so modified that it pertains to the class of *mild* or *uniform* climates; whilst in the intervening region and in that beyond the modifying influence of these ocean-lakes, the range of the thermometer becomes so augmented and the opposite seasons so contrasted in their mean temperatures, that these climates are classified as emphatically *excessive.* These results, however, are clearly exhibited in the following tabular abstract:—

Posts on the Ocean and the Lakes, or Mild and Uniform Climates.	No. of years of observation.	Latitude.	Mean Annual Temperature.	Mean Temp.		Difference of the Mean Temp. of			Mean Annual Range.
				Winter.	Summer.	Winter and Summer.	Warmest & coldest Month.	Winter and Spring.	
Fort Brady, *Outlet of Lake Superior,*	6	46°39′	41°.39	21°.07	63°.18	42° 11	47°.22	18°.42	110°
" Vancouver, *Oregon Territory,*	1	45°37′	51 .75	41 .33	65 .00	23 .67	28 .00	6 .67	78
" Sullivan, *Eastport, Maine,*	5	44°44′	42 .95	22 .95	62 .10	39 .15	43 .87	17 .16	104
" Preble, *Portland, Maine,*	5	43°38′	46 .67	26 .03	67 .06	41 .03	47 .89	18 .42	99
" Niagara, *Lake Ontario. N. Y.,*	2	43°15′	51 .69	30 .46	72 .19	41 .73	49 .40	16 .77	92
" Constitution, *Portsmouth, N. H.*	4	43°04′	47 .21	28 .39	65 .72	36 .33	43 .39	16 .83	97
" Wolcott, *Newport, R. I.*	9	41°30′	50 .61	32 .51	69 .06	36 .55	41 .52	14 .71	83
" Trumbull, *New London, Conn.,*	2	41°22′	55 .—	39 .33	71 .89	32 .56	39 .37	11 .67	78
" Columbus, *New York Harbour,*	9	40°42′	53 .—	32 .39	73 .70	41 .31	45 .92	17 .87	95
Posts remote from the Ocean and Lakes, or Excessive Climates.									
Hancock Barracks, *Houlton, Maine,*	2	46°10′	41°.21	16°.74	62°.93	46°.19	54°.70	24°.49	118°
Fort Snelling, *near the junction of the St. Peter's and Mississippi,*	8	44°53′	45 .83	15 .95	72 .75	56 .60	61 .86	30 .83	119
" Howard, *Green Bay, Wisconsin,*	9	44°40′	44 .92	19 .77	69 .82	50 .05	54 .11	24 .10	123
" Crawford, *Prairie du Chien, Wn.*	2	43°03′	45 .52	19 .90	70 .79	50 .89	52 .68	25 .38	120
Council Bluffs, *near the junction of the Platte and Missouri.*	5	41°45′	51 .02	24 .47	75 .82	51.35	54 .77	27 .47	120
Fort Armstrong, *Rock Island, Ill.*	4	41°28′	51 .64	26 .86	75 .91	49 .05	54 .14	23 .99	106
West Point, *New York,*	4	41°22′	52 .47	32 .11	72 .86	40 .75	46 .17	18 .82	91

Notwithstanding the posts on the same parallels exhibit in rapid succession four marked inflexions of the isotheral and isocheimal lines, (the mean summer and winter temperatures,) causing a marked diversity in the contrast of these opposite seasons, yet the mean annual temperature presents little variation. The difference of climate is, therefore, owing to the unequal distribution of heat among the seasons. A single glance at the table serves to show these various contrasts. It will be observed that at the posts on large bodies of water, the mean temperature of winter is higher and that of summer is lower than in the opposite localities; but these results are more satisfactorily perceived by comparing the difference between the mean temperature of winter and summer, and the warmest and coldest month, in each system of climate. Thus Fort Brady, at the outlet of Lake Superior, shows a difference of only 42°.11 between the mean temperature of winter and

summer, whilst Hancock Barracks, half a degree farther south, in the state of Maine, situated not more than 150 miles from the sea-coast, exhibit a disparity of 46°.19; and comparing the warmest and coldest month, the difference of the former is 47°.22, and that of the latter 54°.70. Again—Forts Sullivan and Snelling, in opposite systems of climate, are very nearly in the same latitude, the former at Eastport, Maine, and the latter at the junction of the St. Peter's and Mississippi, Iowa. At Fort Sullivan, the difference of winter and summer is 39°.15, and that of the warmest and coldest month, 43°.87; whilst at Fort Snelling, these ratios are respectively 56°.60 and 61°.86. Fort Howard is also in the same latitude, but as it is situated at the extreme point of one of the smaller lakes, (Green Bay, Wisconsin,) the temperature is partially modified, these averages being 50°.05 and 54°.11. Next come four posts, all of which are nearly on the same parallel, three being of the class of *uniform* climates and one of that of *excessive*. Of the former, two, Forts Preble and Constitution, are on the ocean, and the other, Fort Niagara, is on Lake Ontario. At these posts in the order just named, the difference between the mean temperature of winter and summer is respectively 41°.03, 36°.33, and 41°.73; whilst, on the other hand, at Fort Crawford, Wisconsin, a point a few minutes farther south than the three former, the difference is 50°.89. On reference to the table, it will be seen that the contrast in the difference between the mean temperature of the warmest and coldest month, is equally striking. The next points of comparison as lying on the same parallel, are Forts Wolcott and Trumbull on the Atlantic, and Council Bluffs, Fort Armstrong, and West Point in the opposite localities. The difference in the mean temperature of summer and winter at Fort Wolcott, Newport, R. I., is 36°.55, and at Fort Trumbull, New London, Conn., it is 32°.56; whilst at Council Bluffs, near the junction of the Platte and Missouri, it is 51°.35, at Fort Armstrong, Ill., 49°.05, and at West Point, N. Y., 40°.75. Between the two posts on the ocean and the two far in the interior, the difference between the mean temperature of summer and winter presents a disparity of from 15° to 17°; and as respects Fort Trumbull and West Point, which are precisely in the same latitude, the difference between these two opposite seasons, notwithstanding the latter is not more than fifty miles from the ocean, is 8°.19 less at the former post. As regards the difference between the mean temperature of the warmest and coldest month, these laws find confirmation in every instance. So remarkable is the influence of large bodies of water in modifying the range of the thermometer that although Fort Brady, at the Sault St. Marie, Mich., is nearly 7° north of Fort Mifflin, near Philadelphia, and notwithstanding the mean annual temperature is more than 14° less, yet the contrast in the seasons of winter and summer is not so great at the former as the latter. Fort Columbus, in the harbour of New York, it is seen, offers, in some respects, an exception to the laws just developed, the range of the thermometer being greater than at some points farther north. As the results, which are based

on nine years' observations, made on an island free from any agency which large towns may exercise, are doubtless correct, some causes of a local nature must exist to produce this effect. It is more than probable that this locality, in consequence of the configuration of the coast, does not lie in the direction of the most prevalent ocean winds, and that hence its temperature is only partially modified.

The climate of Fort Snelling, which is the most excessive among all the military posts of the United States, resembles that of Moscow in Russia, as regards the extremes of the opposite seasons, notwithstanding the latter is 11° farther north; but at Moscow, the mean temperature both of winter and of summer is lower, that of winter being as 10°.78 to 15°.95, and that of summer as 67°.10 to 72°.75. At Edinburgh, Scotland, in the same latitude as Moscow, the difference between the mean temperature of winter and summer is, on the other hand, not one third as great, being only 17°.90; and even at North Cape, on the island of Maggeroe, in lat. 71°, which is the most northern point of Europe, this difference in the two seasons, so great is the modifying influence of the ocean, is no more than 19°.62; whilst at Uleo in the interior of Lapland, the difference between the mean temperature of summer and winter is 45°.90.

In these comparisons, no reference has yet been made to the second post in the table, Fort Vancouver, in Oregon Territory, situated on the Columbia river, about seventy miles in a direct line from the Pacific ocean. This region bears the same climatic relation to our coast and to that of eastern Asia, as the western coast of Europe does. It is seen that the mean annual temperature is about 10° higher than that of the posts on the same parallel on our own coast. To attempt to explain these results would lead beyond the limits designed for this paper. Suffice it to say that they find a ready explanation in physical causes. So mild and uniform are the seasons at Fort Vancouver, that the difference between the mean temperature of winter and summer is only 23°.67—a mean which is less than that of Italy or southern France, and only about two fifths of that of Fort Snelling, notwithstanding the latter is nearly 1° farther south. This locality is even less contrasted in these opposite seasons than Cantonment Clinch near Pensacola or Petite Coquille near New Orleans. The mean temperature of spring, summer and autumn, are about the same as at Fort Wolcott, R. I., whilst the winter resembles that of Fort Gibson, Ark.

The next point demanding attention is the difference between the mean temperature of winter and spring. A glance at the table given above will show that this difference is much the greater in the *excessive* climates. Taking places in the same latitude and in opposite systems of climate, it is found at Fort Brady to be 18°.42, whilst at Hancock Barracks it is 24.°49; at Fort Sullivan it is 17°.16, whilst at Forts Snelling and Howard, it is respectively 30°.83 and 24°.10, the latter being partially modified by Green Bay; at Forts Preble, Niagara and Constitution, the ratios are 18°.42,

16°.77 and 16°.83, and at Fort Crawford, on the other hand, it is 25°.83; and lastly at Forts Wolcott and Trumbull, is 14°.71 and 11°.67, whilst at Council Bluffs, Fort Armstrong, and West Point, it is respectively 27°.47, 23°.99, and 18°.82. Fort Columbus, as in the preceding comparison, stands as an exception, its ratio, notwithstanding it is lower than any one in the opposite class, being the highest in its own with the exception of two posts. This peculiarity in the increase of the temperature of spring, as manifested in the vegetable kingdom, constitutes a feature which strongly characterizes excessive climates; for, as Baron Humboldt remarks—"a summer of uniform heat excites less the force of vegetation, than a great heat preceded by a cold season." Accordingly we find that in these excessive climates, (unlike the uniform ones on the ocean and lakes, in which the air is moist and the changes of the seasons slow and uncertain,) summer succeeds winter so rapidly that there is scarcely any spring, and vernal vegetation is developed with remarkable suddenness. At Fort Vancouver, the difference between the mean temperature of winter and spring is only 6°.67, which is about one third of the difference observed at the posts in our *modified* climates on the same parallel, and little more than one fifth of the difference exhibited in the *excessive* climate of Fort Snelling.

Another feature which characterizes these two systems of climate remains to be considered, viz., the mean annual range of the thermometer. On reference to the table, this striking peculiarity is at once apparent. On a comparison of the posts on the same parallel, the following relations are found:—At Fort Brady, on the one hand, the range is 110°, and at Hancock Barracks, on the other, it is 118°; at Fort Sullivan it is 104, whilst at Forts Snelling and Howard, it is 119° and 123°; at Forts Preble, Niagara and Constitution, it is respectively 99°, 92° and 97°, whilst at Fort Crawford, on the same parallel, it is 120°; and lastly at Forts Wolcott and Trumbull, it is 83° and 78°, whilst at Council Bluffs, Fort Armstrong and West Point, it is 120°, 106° and 91°. Fort Columbus, as before, presents an exception. These results, it may be necessary to add, exhibit the *average* range of a series of years. The *extreme* range, for example, at Fort Brady, during a period of eleven years, (from 1820 to 1830 inclusive,) is 130°, the mercury sinking in 1826 as low as −37°, and rising in 1830 to 93° Fahr. At Fort Snelling in 1821, the mercury sunk to −32°, and in 1827 rose to 96°, being a range of 128°. At Fort Howard, in 1823, it rose to 100° and sunk to −38°, being a range in the same year of 138°. At Fort Crawford we find the mercury in 1820 noted as high as 99°, and in 1821 as low as −36°, being a range of 135°; at Fort Armstrong, in 1821, as low as −28°, and in 1830 as high as 98°, being a range of 126°; and lastly at Council Bluffs as low, in 1820, as −22°, and in 1822 as high as 108°, being an extreme range of 130°. At the last named post, the thermometer rose every year above 100°. When the Southern Division of the United States comes under investigation, it will be seen that the mercury there seldom rises as high as in our northern regions,

2. *The Middle Division.*—The numerical results furnished by this Division are, as in the Northern, presented in the following condensed summary:

Posts of the Middle Division.	No. of years of observation.	Latitude.	Mean Annual Temperature.	Mean Temp.		Difference of the Mean Temp. of			Mean Annual Range.
				Winter.	Summer.	Winter and Summer.	Warmest & coldest Month.	Winter and Spring.	
Fort Mifflin, *near Philadelphia*,	2	39°51′	55°.28	33°.11	77°.93	44°.82	48°.03	18°.33	87°
Washington City, D. C.,	8	38°53′	56 .57	37 .76	76 .74	38 .98	42 .40	18 .43	84
Jefferson Barracks, *near St. Louis*,	4	38°28′	58 .14	37 .67	78 .45	40 .78	45 .15	21 .08	89
Fort Monroe, *Old Point Comfort, Va.*	5	37°02′	61 .43	45 .17	78 .31	33 .14	36 .82	13 .74	73
Fort Gibson, *Arkansas*,	3	35°47′	62 .90	44 .31	81 .14	36 .83	42 .03	18 .18	89
" Johnston, *Coast of N. Carolina*,	5	34°00′	66 .96	52 .48	80 .31	27 .83	30 .15	14 .02	62
Augusta Arsenal, *Ga.*,	5	33°28′	66 .01	51 .43	81 .06	29 .63	32 .54	14 .46	73
Fort Moultrie, *Charleston Harbour*,	2	32°42′	65 .78	49 .93	80 .27	30 .34	35 .73	16 .35	69
" Jesup, *near Sabine River, La.*,	8	31°30′	68 .03	53 .19	82 .48	29 .29	31 .24	14 .74	77

It has not been deemed fitting to arrange these posts into the two classes of uniform and excessive climes, as the majority of them are of a mixed character. The first two are slightly under the influence of the Atlantic, whilst the south-western stations experience the powerful agency of the Gulf of Mexico. The laws of climate developed in the preceding Division, do not find so happy an illustration in this one; for as the physical causes act less prominently, the effects are less marked. As we proceed south, the seasons become, as a general rule, more uniform in proportion as the mean annual temperature increases. Fort Mifflin and Washington City do not properly pertain to either class, being in a measure under the influence of the ocean; but as we possess no thermometrical observations made directly on the Atlantic on the same parallel, we are unable to determine the difference of climate. Fort Mifflin shows a greater contrast in the opposite seasons than Forts Brady, Sullivan, Preble, Niagara, West Point, Constitution, Wolcott, and Trumbull; and Washington City exhibits greater extremes than the three last named. Although the results given at Washington City fairly place it in the class of excessive climes, yet on following the same parallel westward, a still greater contrast is exhibited. Thus the difference between the mean temperature of winter and summer at Jefferson Barracks near St. Louis, notwithstanding it is about half a degree farther south than Washington City, is 1°.80 greater; and on comparing Fort Gibson, Ark., with Fort Monroe, on the coast of Virginia, though the latter is 1°15′ north of the former, the difference at Fort Gibson, in the same respect, is 3°.69 greater. Fort Johnston, on the coast of North Carolina, which is 0°32′ north of Augusta Arsenal, Ga., also exhibits a less extreme in the opposite seasons.

In casting one's eye over the column showing the difference between the mean temperature of winter and spring, the general laws already revealed are apparent. Jefferson Barracks shows a greater inequality than Washington City, and Fort Gibson than Fort Monroe. Fort Jesup cannot be fairly compared, by way of contrast, with a position in the same latitude on the

Atlantic, as the warm atmospheric currents from the Gulf of Mexico exercise there a sensible influence.

As respects the mean annual range of the thermometer, it is found that the laws developed in the Northern Division are here corroborated. Washington City has a mean annual range of 84°, whilst that of Jefferson Barracks is 89°; the ratio of Fort Monroe, on the one hand, is 73°, and that of Fort Gibson, on the other, is 89°; and lastly the range at Fort Johnston is 62°, whilst that of Augusta Arsenal is 73°.

3. The *Southern Division*, which is characterized by the predominance of high temperature, remains to be considered. The climate of this region is fully illustrated by the posts contained in the subjoined tabular abstract:—

Posts of the Southern Division.	No. of years of observation.	Latitude.	Mean Annual Temperature.	Mean Temp.		Difference of the Mean Temp. of			Mean Annual Range.
				Winter.	Summer.	Winter and Summer.	Warmest & coldest Month.	Winter and Spring.	
Cantonment Clinch, *near Pensacola*,	7	30°24′	69°.44′	56°.14	82°.24	26°.10	28°.60	13°.12	70°
Petite Coquille, *near New Orleans*,	4	30°10′	71 .25	59 .26	83 .46	24 .20	27 .97	10 .71	64
Fort Marion, *St. Augustine, Florida*,	4	29°50′	72 .66	62 .21	82 .30	20 .09	22 .08	9 .29	53
" King, *interior of East Florida*,	3	29°12′	72 .66	61 .78	84 .20	22 .42	25 .69	10 .78	78
" Brooke, *Tampa Bay, Florida*,	5	27°57′	73 .42	64 .76	81 .25	16 .49	18 .66	8 .35	56
Key West or Thompson's Island,	3	24°33′	76 .09	70 .05	81 .39	11 .34	14 .66	5 .99	37

On approaching the southern coast, climate undergoes a marked modification. The seasons glide imperceptibly into each other, exhibiting no great extremes. This is strikingly illustrated on comparing the difference between the mean temperature of summer and winter at Fort Snelling, Iowa, and at Key West, at the southern point of Florida, the former being 56°.60, and the latter only 11°.34. The peculiar climatic character of the peninsula of Florida was, however, so fully considered in the number of this Journal for January last, that any additional remarks were supererogatory. The results given by Cantonment Clinch near Pensacola and by Petite Coquille near New Orleans, manifest strongly the modifying agency of the Gulf of Mexico, the latter post being also environed by large lakes.

The last four stations in the table may be considered as all belonging to the peninsula of East Florida, Key West being an island at the southern point. As Fort King is situated in the interior and the other three posts on the coast, we have an additional illustration, even in a climate characterized by very little distinction of the seasons, of the modifying agency of large bodies of water; for, the mean temperature of winter at Fort King is lower, and that of summer higher, than at the other three posts. Although Key West, which is 4°39′ south of Fort King, has a mean annual temperature 3°.43 higher, yet the mean summer temperatnre is 2°.81 lower. In the article to which reference is made above, the equalizing influence of the ocean was still further exhibited in the annual range of the thermometer, the mean of the monthly ranges, and the average difference of the successive

seasons. It was also shown that the peculiar climatic character of East Florida, as distinguished from that of more northern latitudes, consists less in the mean annual temperature than in the manner of its distribution among the seasons. At Fort Snelling, for example, the mean temperature of winter is 15°.95, and of summer 72°.75, whilst at Key West, the former is 70°.05 and the latter 81°.39. Thus, though the winter at Fort Snelling is 54°.10 colder than at Key West, yet the mean temperature of summer at the latter is only 8°.64 higher.

As the foregoing results are based on observations continued mostly from four to nine years, thus comprising from 4000 to 10,000 observations for each result, the average ratios may be depended upon as correct. Having also arranged in tabular abstracts for every post, the mean temperature of each month, the difference of each successive month, and the monthly ranges of temperature with the maximum and minimum degrees, (none of which tables is now given,) these preliminary remarks will be concluded with several general observations.

July, taking the mean of a series of years, is, throughout the United States, the hottest month in the year with scarcely an exception; and January, generally speaking, is the coldest month, but sometimes December or February gives a lower temperature. The least difference in the mean temperature of any two successive months, is that of July and August, and the next lowest is that between January and February. Between October and November, the difference is greatest at the southern posts; but at the northern on the ocean and the lakes, the difference between March and April, and between April and May, is about the same as that between October and November, whilst at the points remote from large bodies of water in these northern regions, the difference between October and November is generally less than that of either of the two former.

It has been seen that the extremes of heat and cold do not occur at our most northern and southern posts, as these are situated on large bodies of water; but that the western stations, Snelling, Gibson, Council Bluffs, &c., remote from inland seas, are remarkable for extremes of temperature. It is here that the mercury rises the highest and sinks the lowest, whilst Forts Brady and Mackinac, the most northern stations, as well as those on the southern coast, exhibit a less range of the thermometer; and in accordance with the same law, we find that the mean summer temperature is greater at Augusta, Ga., than along the coast of Florida. Whilst at Key West, during a period of six years, the thermometer never rose above 90°, it attained at Council Bluffs, a point 17°12′ north, every year, a height varying from 102° to 108°. The highest temperature in the shade noted at our various posts, was at Fort Gibson on the 15th August 1834, being 116°. Although the mean annual temperature, in proceeding from the equator towards the poles, gradually diminishes, yet the thermometer scarcely mounts higher at the

equinoctial line than under the polar circle. Hence it follows that the climate of the tropics is characterized much more by the duration of heat than its intensity.

The lowest temperature, taking the mean of a month, occurred at Forts Howard and Snelling. At the former, the mean of the month of February 1829 at 7 o'clock A. M. is −3°.17, and the mean of December 1822 at Fort Snelling is −3°.61. This, it is to be observed, is merely the average of the morning observations for the month. The extreme severity of the winters at the posts in the Northern Division, remote from large bodies of water, has been already fully illustrated. The following remark, made by Surgeon Beaumont when stationed in 1829 at Fort Crawford, Wisconsin, which is in the latitude of Fort Wolcott, R. I., may be given in elucidation:—"The month of January was remarkably mild and pleasant, the ground dry and free from snow, and the Mississippi unusually low and unfrozen. February was extremely cold, the weather clear and dry, and the thermometer ranging during the month from the freezing point to 23° below zero. From the 1st to the 16th, the mercury stood every morning, with the exception of three, (the 6th, 7th and 8th,) between −4° and −23°, and did not rise above 20° above zero during these days. On the 2d, 3d, 4th, 5th, 9th, 10th, 11th, 12th, 13th, 14th and 15th, the mercury at sunrise stood respectively at 14°, 16°, 4°, 16°, 23°, 18°, 20°, 18°, 10°, 6° and 4° below 0; and on the 9th and 11th, it continued under −8° during the twenty-four hours. During the month, the prevailing winds were northerly and dry, and the proportion of fair and cloudy weather was, clear 22 days, cloudy 3, variable 1, and snowy 2. The mean depth of snow was about 6 inches. The month of March has been unusually cold and dry, with one or two light falls of snow, which, with the previous coat, has just been dissolved by the warmth of the solar rays without any rain. The ice on the Mississippi, which broke yesterday, (March 30th,) is now moving off *en masse*."

In the winter of 1780, the temperature at the city of New York was so low that cannon were transported over the ice in the harbour to Staten Island. In the interior of the state, the cold was correspondingly intense. All streams were so completely locked up that no grain could be ground in grist mills, and the inhabitants were obliged to bruize it in mortars; the snow was so deep that no efforts were made for weeks to reclaim the roads; in narrow ravines, it became so drifted as to cover the tops of the highest trees; even many habitations were so buried that their inmates were obliged to tunnel their way to the light of heaven; and lastly, for the period of forty days, no water dropped from the eaves of houses. So say not only the chronicles of the day, but witnesses are yet living to testify to these facts. In the absence of the precise knowledge derived from thermometrical observations, we can at least infer that it was, even on our coast, a truly Russian winter; and the imagination is left to figure to itself the condition of things at the

present sites of Forts Snelling, Howard and Crawford. In this winter, as well as 1742, Long Island Sound was frozen over.

Scarcely does a winter elapse that the Hudson river is not frozen over even in the vicinity of the city of New York; whilst Philadelphia and even Baltimore, lying on the same parallels which in Europe produce the olive and the orange, have their commerce often interrupted from the same cause. The Delaware, which is in the latitude of Madrid and Naples, is generally frozen over five or six weeks each winter. Even the Potomac becomes so much obstructed by ice that all communication with the District of Columbia by this means, is suspended for weeks. Further north, the mouth of the St. Lawrence is shut up by ice during five months of the year; and Hudson's Bay, notwithstanding it is in the same latitude as the Baltic sea and of more than twice the extent, is so much obstructed by ice even in the summer months as to be comparatively of little value as a navigable basin.

But even in northern latitudes on our coast, we find climates comparatively mild. As Nova Scotia is perfectly insular with the exception of a neck of land eight miles wide, and is so much intersected by lakes and bays that nearly one third of its surface is under water, the mercury seldom rises above 88° in summer, or sinks lower than 6° or 8° below zero in winter. In addition to this, some influence must be exercised by the Gulf Stream, which strikes upon this part of the coast, "in tides of from sixty to seventy feet, overflows the country to the distance of several miles, and converts the mouths of streams, fordable at low water, into extensive arms of the sea where whole fleets might ride at anchor." On our western coast, the extremely modified climate of the region of Oregon, on a parallel five degrees north of the city of New York, has been already illustrated. During a year's observations at Fort Vancouver, the lowest point is 17°, and the whole number of days below the freezing point are only nine, all of which are noted in January. We are told by Mr. Ball of the state of New York, by whom these observations were made, that he commenced ploughing in January of the year 1833. "The vegetables of the preceding season," he says, "were still standing in gardens untouched by the frost. New grass had sprung up sufficiently for excellent pasture. Fruit trees were in full blossom. * * * Though the latitude is nearly that of Montreal, mowing and curing hay are unnecessary; for cattle graze on fresh growing grass through the winter. * * Winters on the Columbia river are remarkably mild, there being no snow, and the river being obstructed by ice but a few days during the first part of January. Grass remained in sufficient perfection to afford good feed; and garden vegetables, such as turnips and carrots, were not destroyed, but no trees blossomed till March, except willow, alders," &c.

As the geographical distribution of plants appears to be chiefly regulated by the temperature of the atmosphere, these investigations become the more interesting and important. Although, in considering the organic life of

plants, it is necessary to estimate the simultaneous influence of all physical causes—soil, heat, light, and the state of the atmosphere as regards its humidity and serenity; yet, among these the most important is the influence of heat, as exhibited in the extreme of temperature both in respect to heat and cold, and in the manner of its distribution among the different months of the year. Each plant has generally a particular climate in which it thrives best, and beyond certain limits it ceases to exist. Hence, having seen the great variations of summer and winter temperature on the same isothermal line, the absurdity of limiting a vegetable production to a certain latitude or mean annual temperature, is apparent. To say that the vine, the olive and the coffee tree, require, in order to be productive, annual temperatures of 53°.60, 60°.80, and 64°.40, is true only of the same system of climate. As the annual quantity of heat which any point of the globe receives, varies very little during a long series of years, the variable product of our harvests depends less on changes in the mean annual temperature, than in its distribution throughout the year. Thus, climates in regard to the geography of plants are strongly characterized by the variations which the temperature of months and seasons experiences. The cotton plant finds its most favourite climate between the equator and latitude 34°; but it succeeds with a mean summer temperature of 75° or 73°, if that of winter does not descend below 36° or 38°. In the United States, it is cultivated in latitude 37°, and in Europe in latitude 40°. Whilst the sugar-cane is cultivated in Europe as far north as latitude 36°, in a mean annual temperature of about 67°, its cultivation in the United States, on account of the low winter temperature, is prevented beyond latitude 31°; but it succeeds on the great table plain of Mexico and Guatemala, where an altitude of 6000 feet converts a tropical into a temperate climate. In Europe, the olive ranges between latitude 36° and 44°, that is, in a mean annual temperature from 66° down to 58°, provided the mean temperature of summer is not below 71°, nor that of the coldest month below 42°, which last excludes all the United States beyond latitude 35°. For the same reason, the date, palm and sweet oranges grow in Louisiana only to latitude 30°. In Europe, the favourite climate of the vine is between latitude 36° and 48°, that is, between the isothermal lines of 62° and 47°.50, provided the winter line is not below 33°, nor the summer under 66° or 68°. Such is the case in Europe to latitude 50°, and in the United States to latitude 40°; but on the Pacific coast of our territory, the requisite temperature is found at Fort Vancouver, which is in the latitude of Montreal. Indeed, we know that on our western coast the olive is cultivated in latitude 38°; and that cotton and sugar-cane would succeed on parallels corresponding to Europe, is an opinion that has for its basis the fundamental truth, that the laws of nature never vary.

The influence of the unequal distribution of heat upon vegetable geography, is beautifully illustrated in the four systems of climate demonstrated on the

same parallels in the Northern Division of the United States; and if we extend the comparison to the Pacific coast, a fifth system may be enumerated on the same latitude. Taking the coast of New England, the region of the Lakes and the Pacific coast, the difference between the mean temperature of winter and spring varies from 6°.67 to 18°.42; whilst in the excessive climate of the regions west of the lakes and intermediate to them and the Atlantic, this difference ranges from 18°.82 to 30°.83; and accordingly we find, as already explained, that spring and summer are confounded with each other, and that the sudden excess of heat renders the progress of vegetation almost perceptible. It is necessary, however, to add that the low ratio of 6°.67 occurs on the Pacific coast, the lowest average in the Northern Division of the United States being 11°.67. In the Middle and Southern Divisions, this vernal increase of temperature gradually diminishes, until finally at Key West it is only 5°.99. But there is another important feature to be observed. Not only is the vernal increase greater in excessive climates; but, as it supervenes upon a lower winter temperature, the effect produced on the development of vegetation is in an inverse ratio. The vernal increase of 30°.83 at Fort Snelling, for example, comes upon a mean winter temperature of 15°.95, whilst at Fort Sullivan, on the same parallel, the increase of only 17°.16 follows a winter temperature as high as 22°.95. Between northern and southern latitudes, this contrast is still more marked; for, whilst at Fort Snelling there is a difference of 13°.46 between the mean temperatures of February and March, and at Key West only 1°.56, the temperature of the month of February at the former is 18°.66, and at the latter 72°.15.

In every work professing to treat of the climate of the United States, the opinion of Jefferson and Volney that, in regard to the temperature of the regions lying east and west of the Alleghenies, "there is a general and uniform difference equivalent to 3° of latitude in favor of the basin of the Ohio and the Mississippi," is quoted as an established fact. This opinion arose from the fact demonstrated by us that the United States present on the same parallel different systems of climate, produced by the unequal distribution of heat among the seasons—causes upon which the geographical distribution of plants depend. Thus, as Volney and Jefferson discovered that the vegetation of Philadelphia is found in the modified climate of our northern lakes, whilst the same plants will not flourish on similar parallels in the interior of New York, Vermont, and New Hampshire, the theory in regard to the difference of temperature east and west of the Alleghenies was naturally suggested. In explanation of the supposed fact that the temperature of the western country is hotter by 3° of latitude than that of the Atlantic coast, M. Volney enters into a laboured and complex theory of the winds, forgetting that it is a good rule in philosophy to ascertain the truth of a fact before attempting its explanation. Now had Volney and Jefferson chanced to

observe the vegetation, by way of comparison along the coast of Rhode Island or Connecticut, and on the same parallels in Illinois or farther westward, instead of the lakes and Albany, the world would have been edified with the opposite theory, viz., that the climate east of the Alleghenies is milder by 3° of latitude than that west. Whilst at Fort Trumbull, Connecticut, the mean winter temperature is 39°.33, at Council Bluffs, near the junction of the Platte and Missouri, it is as low as 24° 47. Hence plants sensible to a low temperature, which flourish in the climate of the former, will perish in the latter; for whilst the mean temperature of the coldest month at Fort Trumbull is only 34°.50, at Council Bluffs it is 22°.61. This is also demonstrated by the average minimum temperature, that of the former being 9° above, and that of the latter 16° below zero; and equally so by the minimum temperature of the winter months, that of December, January, and February, being at Fort Trumbull respectively 20°, 10°, and 16°, and at Council Bluffs, -4°, -13°, and -11°. On the other hand, it will be found that the vegetables which can endure the rigorous climate of Council Bluffs, will flourish more vigorously than in the region of Connecticut; for at the former, the vernal increase is 27°.47, and at the latter only 11°.67. Moreover the latter increase is added to a winter temperature of 39°.33; whilst the former, added to 24°.47, more than doubles itself.

Having thus condensed some of the more important practical deductions afforded by the "Army Meteorological Register," I shall now enter upon the second branch of the subject.

In the investigation of those diseases which are generally ascribed to, or supposed to have some relation with, causes of malarial origin, the same arrangement of the subject, as regards the influence of climate, will be adopted as in the inquiry relative to pulmonary diseases. Although in this attempt to establish a relation between climate and malarial diseases, the writer may not prove so successful as in the essay in reference to pulmonic affections; yet he will at least determine the relative prevalence of these diseases in the different regions of the United States, and develope at the same time some of the laws, as regards season and climate, by which the diseases attributed to malarial origin are governed. As the etiology of pulmonic diseases is more especially connected with mere temperature, we are enabled to arrive at some positive knowledge; but as regards malaria—that mysterious agent which has hitherto remained inscrutable in its nature—all our knowledge is derived from its effects on the human frame. We know that terrestrial emanations dissolved in atmospheric moisture modify the constitution of climate, and that consequently the *nature of soil*, which consists of a stratum of comminuted mineral substances and organic remains upon which man is dependent for existence, constitutes one of the most important points in-

volved in the inquiry. Although malaria has hitherto defied the power of the chemical analyst, yet as caloric is the controlling element in the constitution of climate modifying its other properties, so it will be seen that the meteorology of heat is intimately connected with the laws of malarial diseases in the relation of cause and effect.

Having said thus much in relation to the inherent difficulties of the subject, it may be well to refer to the doctrine of averages by which important relations in several sciences have been disclosed, discoverable in no other way. Applied to governmental objects, numerical analysis soon bestowed upon political economy the character of a science; and its application to the investigation of morbid actions, gives to medical inquiries the same character which pertains to statistical researches on other subjects. The success already realized bids fair in regard to the future; and as averages may be regarded in a great measure, as the mathematics of medical science, this method constitutes an unerring path in the region of its true philosophy. Instead of being bewildered by contradictory conclusions based on the few cases which fall under the observation of particular practitioners, we are enabled, by thus accumulating a vast aggregation of facts extending over thousands of individuals, to deduce the laws by which nature operates in inducing mortality by particular diseases.

The statistical data brought to bear upon the present subject have been furnished by official records in the Medical Department and Adjutant General's office. They extend over a period of ten years, comprise every portion of the United States and Territories, and are based on an aggregate mean strength of 47,219.

The following table presents in a condensed form the *Ratio of Intermittent Fever:*

Divisions.	*Systems of Climate.*	Ratio of cases treated per 1000 of mean strength.				
		First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Annual Result.
Northern	1st Class. Posts on the coast of New England,	2	15	11	9	36
	2d " Posts on Northern chain of Lakes,	13	73	77	36	193
	3d " Posts north of latitude 39°, and remote from the ocean and inland seas,	21	34	57	40	151
Middle.	1st Class. Coast from Delaware Bay to Savannah,	41	71	158	101	370
	2d " Southwestern stations,	101	129	305	197	747
Southern.	1st Class. Posts on Lower Mississippi,*	62	77	170	90	385
	2d " Posts in the Peninsula of East Florida,	52	105	244	138	520
	Average,	45	75	156	93	368

The low ratio of intermittent fever on the coast of New England compared with interior regions on the same parallels, is very surprising; but

* In default of a better arrangement, Augusta Arsenal, Georgia, and Fort Mitchell, Alabama, have been included in this class.

even the average given is entirely too high, inasmuch as by far the majority of cases arose among soldiers who had been exposed in malarial regions. Of the seven posts constituting this class, two-thirds of the cases were reported at Fort Columbus; and at this post, no case has ever been known to originate. Assistant Surgeon Sargent avers that in 33 years, during which period he was stationed at Fort Constitution, N. H., only one case, which he regarded as really of domestic origin, fell under his observation. The coast of New England may, indeed, be considered as exempt from this disease. The same contrast as regards the prevalence of intermittent fever, is shown, in the statistics of the British Army, to exist between Canada, on the one hand, and Nova Scotia and New Brunswick on the other. Whilst several thousand cases are annually reported in the former Command, the disease is so rare in the latter, that scarcely one indigenous case has ever been known to occur. Even in Lower Canada, intermittents are almost unknown, the proportion, compared with Upper Canada, being as 13 to 89; and these cases have in most instances been traced to soldiers, who had laboured under the disease or had acquired a predisposition to it in the Upper Provinces. The fact seems inexplicable, that this disease should prevail extensively along the shores of the lakes and the margins of streams in Upper Canada, whilst situations abounding in similar supposed sources of malaria in Nova Scotia, should be exempt. As the soil of Halifax is arid and rocky, this exemption would have been inferred *a priori;* but it is surprising that it should extend equally to the troops and inhabitants at Windsor, Annapolis, Fort Cumberland and Frederickton, notwithstanding their position at the embouchure of rivers, and exposure to the influence of that combination of mud and marsh, regarded as its prolific source in Upper Canada. This seems the more remarkable when it is considered that the climate of Upper Canada and that of Nova Scotia are very similar. As the latter is a peninsula so much intersected by lakes and bays, that nearly one third of its surface is under water, the temperature, it has been seen, is so much modified, that the mercury seldom rises above 88° in summer, or sinks lower than 6° or 8° below zero in winter.

The posts of the second class, like the British military stations in the same region, exhibit comparatively a high ratio of intermitting fever. The mean aggregate strength of this class of posts is 5975, and the total of cases of intermitting fever reported is 1150; and of these, 560 cases are reported at Fort Gratiot, in a strength of 782. At this post, situated at the outlet of Lake Huron, the disease is exceedingly rife both among the troops and the inhabitants. As the annual ratio of cases treated per 1000, is 715, this post presents an average nearly as high as the southwestern stations, and higher than that of East Florida. Unlike the class of posts on the coast of New England, at which the majority of cases are of foreign origin, the class on the Lakes strongly manifests the influence of the seasons in the causation of the disease. For example, if 1000 troops were stationed at these seven

posts, 13 would be attacked with intermitting fever during the first quarter of the year, 73 in the second, 77 in the third, and 36 in the fourth.

The average of the third class of the Northern Division is 151. Of the seven posts constituting this class, the occurrence of the disease is very unusual at Hancock Barracks, West Point, and Forts Snelling, Winnebago, and Armstrong, whilst at Forts Crawford and Leavenworth it is very prevalent. If the statistics of Fort Leavenworth on the Missouri, which is nearly as far South as 39°, is excluded from the calculation, the annual average of the class is reduced from 151 to 71 per 1000.

The average of the Northern Division, comprising the three classes just examined, is 143.

The *Middle Division*, which comes next under consideration, shows that in proportion as Southern latitudes are approached, diseases of malarial origin increase *pari passu*. The average of intermittents in the three classes composing the Northern Division, is not more than two-fifths as high as that of the class now under examination, embracing Forts Delaware, McHenry, Severn, Washington, Monroe, Johnson, Moultrie, Bellona Arsenal, and Oglethorpe Barracks. With the exception of Fort Moultrie, in Charleston harbour, none of these posts possesses an exemption from intermittent fever. At Fort McHenry, (Baltimore,) Fort Severn, (Annapolis,) and Fort Washington, (opposite Mount Vernon,) the disease has always been so rife, notwithstanding these garrisons generally formed summer encampments, that the average is higher than in Florida. The influence of the seasons in this class is very decidedly manifested, the ratio of the first quarter being 41, the second 71, the third 158, and the fourth 101.

The second class of this Division, consisting of the southwestern posts, viz., Jefferson Barracks, Forts Gibson, Smith and Coffee, Towson, and Jesup, presents an average twice as high as the last class, and higher than any other in the United States. With the exception of Fort Jesup, intermittents are very rife at all these stations. At Fort Gibson, for example, the average number of cases exceeds the mean strength nearly one fourth. This post is situated about three miles from the junction of three rivers—a spot originally formed by the rich alluvion of these streams; and as the solar heat is intense, and the quantity of rain, though adequate to the maintenance of a certain degree of moisture, not sufficient to overflow the surface, the circumstances most favourable to the evolution of malaria, obtain. The high ratio of this class of posts, compared with the class on the Atlantic in similar latitudes, is doubtless to be ascribed, in a great measure, to the great and long-continued summer heats. In the Northern Division, it is true, this law is not recognised; but there, notwithstanding the mercury rises very high, the period of this intense heat is very limited. In this class, the relative influence of the seasons in the production of intermittents is very apparent, the four quarters presenting the following ratios: 101, 129, 305, and 197 cases per 1000 of the mean strength.

The *Southern Division* remains to be considered. The first class, comprising Baton Rouge, New Orleans, and Forts Pike, Wood, and Jackson, all on the lower Mississippi, and Augusta Arsenal, (Georgia,) and Fort Mitchell, (Alabama,) gives an annual average of 385 per 1000, being scarcely more than one half as high as that of the southwestern stations; and the second class, embracing the posts in East Florida, both permanent and temporary, presents a ratio of 520, which, with the exception of the southwestern posts, is higher than that of any other class. In the first class, however, the troops were frequently removed to healthy summer encampments. As the troops in Florida are occasionally relieved, whilst those at the southwestern posts generally there serve out the whole period of their enlistment, it may be supposed that the extreme liability of this disease to recur, may swell the ratio of the latter comparatively. This rule, however, does not hold good; for, by a parity of reasoning, the class of posts on the lower Mississippi ought to give an average twice as high as its actual ratio. It is more than probable, as the summer temperature never rises so high in the two classes of the Southern Division, as well as the first of the Middle, as it does at the class of southwestern posts, that the causes productive of intermittent fever are not generated so abundantly at the former. As the ratio of the third quarter is three and four fold greater than that of the first, it may reasonably be inferred, all other causes being equal, that the higher the temperature of this season, the greater will be the proportion of cases of intermitting fever; and this deduction is corroborated by the fact, that as we proceed south, the ratio of intermittents augments with the increased summer temperature. On reference to the table, it will be seen that the striking distinction in the average of cases in the different seasons, is equally apparent in the two classes of the Southern Division. As regards the relative prevalence of this disease in our northern and southern regions, it is found that in the former, comprising the first three classes, the annnal ratio per 1000 is 143; whilst in the latter, embracing the Middle and Southern Divisions, the average is 568.

The average ratios of intermittent fever per 1000, among all the troops stationed throughout the United States, are as follows:

1st quarter.	2d quarter.	3d quarter.	4th quarter.	Annual result.
45	75	156	93	368

The ratio of mortality from this cause is very low. It is only in our southern latitudes, when violent congestions of internal organs occur, that death may be said to arise directly from intermittent fever. In the Northern Division, the total of cases reported is 3187, and one death; and in the Middle and Southern Divisions, 14,094 cases, and 13 deaths. The ratio of deaths from this disease, on an average of all the posts, is only 8 in every ten thousand cases. According to the British statistics, the annual ratio of cases, per 1000 of the strength in the West Indies, is 243, and the ratio of

mortality, 6 per 1000 cases; in the Mediterranean commands, the ratio of cases is 58, and that of deaths 5; among the troops on the home station, the disease is almost unknown; and among those stationed in Canada, New Brunswick, and Nova Scotia, the ratio of cases is 47 per 1000 of the strength, and the mortality 8 per 10,000 of the cases. In Nova Scotia and New Brunswick, however, there is almost an entire exemption from the disease.

Having completed the details relative to intermittent fever, the subject of remittent fever will be next investigated.

Ratio of Remittent Fever.

Divisions.	*Systems of Climate.*	Ratio of cases treated per 1000 of mean strength.				
		First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Annual Results.
Northern.	1st Class. Posts on the coast of New England,	3	9	8	6	26
	2d " Posts on Northern chain of Lakes,	3	6	21	4	33
	3d " Posts north of latitude 39°, and remote from the ocean and inland seas,	2	3	13	6	24
Middle.	1st Class. Coast from Delaware Bay to Savannah,	3	20	110	48	181
	2d " Southwestern stations,	12	19	104	38	180
Southern.	1st Class. Posts on Lower Mississippi,	17	47	86	56	196
	2d " Posts in the Peninsula of East Florida,	9	20	55	33	102
	Average,	7	15	58	22	101

In the three classes of the Northern Division, there is little difference in the annual ratios—a result which, as the coast of New England is exempt from intermittent fever, may be regarded as militating against the doctrine of their common origin. As remittent fever is much under the influence of the seasons, the ratio of the third quarter being more than eight times as high as that of the first in the general average of the United States, and as this inequality of the seasons is not manifested on the coast of New England, the ratio of the second quarter being higher than that of the third, it is more than probable that many of the cases reported as remittent were of the common continued type. In every other class, this preponderance of the third quarter over the first is very striking, being in the first class of the Middle Division as 110 to 3. Although there is no exact relation discoverable between these two forms of fever, yet the statistics of our troops prove, as a general rule, that where one is rife, the other is so too. In the British statistics, the same connection is established; for in the West Indies, and the Ionian Islands, both prevail extensively, whilst in England, Gibraltar, Malta, the Bermudas, and Nova Scotia and New Brunswick, the ratio of both is low. In Canada, as might be expected in a cold country, the average of intermittents is much higher than that of remittents. In the Middle Division, compared with the Northern, the ratio of remittents increases very rapidly, being more than six-fold greater. In the first class of the Southern Division, the ratio is still higher; and here, too, the mortality is greatest in consequence of the high

grade of intensity assumed by febrile action; but in the second class, comprising the posts in East Florida, the ratio is lower than that of any one of the three preceding classes. In the first class of the Middle and of the Southern Divisions, as for example, Charleston and New Orleans, the form of fever designated *febris icterodes* or *yellow fever*, appears annually; whilst in the second class of the Middle Division, it is perhaps unknown, and in the second class of the Southern appears very rarely. As to the proper distinction between the bilious remittent fever of warm climates and the genuine *febris icterodes*, an arbitrary classification has been pursued by our medical officers; the majority of them reporting all these cases under the common nosological term of "remittent fever." In the present state of our knowledge, we are not, however, warranted in admitting that the same miasm which causes common remittent fever can, in its more virulent form, induce yellow fever, or indeed that the latter is of paludal origin. To prove that the causes productive of intermittent fever were generated most abundantly under a high temperature, it was shown that the annual average increased with the decrease of latitude, and that the third quarter invariably presented the highest ratio; and in regard to remittent fever, a comparison of the tables will show that these facts are yet much more striking. In the three classes constituting the Northern Division, the annual ratio of cases of remitting fever per 1000 of the strength is 26, and in the four classes constituting the Middle and Southern Divisions, it is 168; whilst the ratio of all the classes is 191. In like manner, the ratio of mortality in the Northern Division is five tenths; and in the Southern regions, 6 per 1000 of the strength; but the proportion of deaths to the number of cases, owing to the greater prevalence of the disease in our southern latitudes, does not exhibit so great a contrast in the two Divisions, being 1 in 49 in the former and 1 in 29 in the latter. In the West Indies, the annual ratio of cases of remittent fever, including yellow fever, is, among the British troops, 413 per 1000 of the strength, and the mortality from the same cause is 54; but it is in the Jamaica Command that this disease prevails with its utmost virulence, the ratio of cases being 745 and of deaths 102 per 1000 men—an average furnished by the statistics of 20 years, and comprising an aggregate mean strength of 51,567; and during the same period, the average of cases among the black troops was only 85, and of deaths, less than 8 per 1000. Among the troops in the United Kingdom, the disease is almost unknown. In the Mediterranean stations, including the fatal epidemics of yellow fever at Gibraltar, the ratio of cases per 1000 is 53, and of mortality 6. And lastly, in British America, comprising the Commands of Canada and Nova Scotia and New Brunswick, the ratio of cases is less than 3 per 1000, and of deaths, less than 2 per 10,000.

As these statistical researches are intended to elucidate such diseases only as manifestly depend on malarial causes, the following table of *Synochal Fevers* would not be presented, were it not that the writer aims at giving a complete view of febrile affections. Under the term, *Synochal*, are con-

densed all the cases registered as synocha, synochus, common continued, ephemeral, and inflammatory fever; but a great majority of them are reported under the last name.

Ratio of Synochal Fevers.

Divisions.	Systems of Climate.	Ratio of cases treated per 1000 of mean strength.				
		First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Annual Results.
Northern.	1st Class. Posts on the coast of New England,	12	14	6	11	43
	2d " Posts on Northern chain of Lakes,	4	5	4	3	16
	3d " Posts north of latitude 39°, and remote from the ocean and inland seas,	11	13	16	6	45
Middle.	1st Class. Coast from Delaware Bay to Savannah,	8	6	6	7	27
	2d " Southwestern stations,	2	4	14	5	25
Southern.	1st Class. Posts on Lower Mississippi,	25	15	3	14	60
	2d " Posts in the Peninsula of East Florida,	2	2	5	10	18
	Average,	8	8	10	7	33

What strikes the mind at the first view of this tabular summary is, that the four seasons exert nearly the same influence upon this class of fevers, and that they are equally unaffected by difference of climate and latitude. As these fevers are dependent neither on the exalted temperature of summer nor on that of southern latitudes, it follows that they arise from causes of a nature entirely distinct from those of intermittent and remittent fever. In the Northern Division, the ratio of cases per 1000 is 37, and the average of the Middle and Southern is 25, whilst the mean of the three is 33. The mortality, however, is greater in our southern than northern latitudes, the proportion of deaths to the number treated being in the former 1 in 65, and in the latter 1 in 412. Among all our troops, the annual ratio of mortality from synochal fevers is only 3 in 10,000. In Canada, Nova Scotia, and New Brunswick, the ratio of cases is 96 and of deaths $1\frac{1}{2}$ per 1000; in England, the ratio of the former is 71 and the latter 1; in the Mediterranean commands, these ratios are 174 and $2\frac{1}{2}$; in the Bermudas, 108 and 2; and in the West Indies, 139 and 6 per 1000.

Although *typhus fever* may be liable to the same objections as synochal, as regards its introduction into an article purporting to treat exclusively of diseases of malarial origin; yet to carry out the idea of presenting a complete view of febrile affections, its consideration becomes necessary in order to show what fevers are not of malarial origin. The following table exhibits the ratio of cases reported as *typhus* in each class of posts:—

Ratio of Typhus Fevers.

Divisions	Systems of Climate.	Ratio of cases treated per 1000 of mean strength.				
		First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Annual Results.
Northern.	1st Class. Posts on the coast of New England,	"	2	2	1	5
	2d " Posts on Northern chain of Lakes,	1	.5	.7	1.8	4
	3d " Posts north of latitude 39°, and remote from the ocean and inland seas,	.3	.1	.4	08	.9
Middle.	1st Class. Coast from Delaware Bay to Savannah,	.7	3	1.2	1	3
	2d " Southwestern stations,	.2	1	1.4	1.3	4
Southern.	1st Class. Posts on the Lower Mississippi,	2	6	3	3	13
	2d " Posts in the Peninsula of East Florida,	.2	"	"	.5	.7
	Average.	.5	1	1	1	3.5

Typhus fever is of comparative infrequency, and, according to the table, its prevalence is uninfluenced either by season or climate. As the term *typhus* is subject to vague and arbitrary application, it is no doubt often used to designate a *typhoid* state of fever—a supposition favoured by the fact that the ratio is higher in our southern than in our northern latitudes. That it is often caused by the same miasm which produces intermittent and remittent fever, is an opinion advanced by Armstrong—a doctrine which has found but few advocates. When these morbific agents act on a system depressed and debilitated from any cause, a low or typhoid state of fever will be developed; but the phenomena of these fevers do not accord with those which characterize genuine contagious typhus—a form generated by that species of miasmata which is evolved in crowded, ill-ventilated ships, jails, hospitals, and the sordid hovels of the poor, and which, when once developed elaborates, there is reason to believe, a peculiar virus communicable to those coming within the sphere of its activity. In our abundant country, real typhus is fortunately very unusual. In the Northern Division, there are reported 54 cases and 8 deaths, and in the Middle and Southern, 110 cases and 24 deaths. Among our troops, the annual mortality from this disease is one in 1476 of the strength; in Canada, 1 in 4944; in Nova Scotia and New Brunswick, 1 in 6635; in the Bermudas, 1 in 5860; in the West Indies, 1 in 12,644; in the United Kingdom, 1 in 1393; and in the Mediterranean Commands, comprising Gibraltar, Malta, and the Ionian Islands, the ratio is 1 in 10,712.

The average annual mortality from the class of fevers brought under investigation, is, among our troops, 4.6 per 1000 of the mean strength. Among the British troops it is as follows: Canada 2.3, Nova Scotia and New Brunswick 1.5, the United Kingdom 1.5, the Mediterranean stations 9, the Bermudas 11, and in the West Indies, the ratio of the Windward and Leeward Command is 37, and that of the Jamaica Command is 102 per 1000 of the strength. Among the white troops stationed at Jamaica, then, the ratio is 25 times higher than the average of our own forces; but the black

troops which serve on the Island enjoy comparative exemption, the ratio being only 8 per 1000.

The ratio of *Diarrhœa* and *Dysentery* is exhibited in the subjoined tabular abstract:—

Ratio of Diarrhœa and Dysentery.

Divisions.	Systems of Climate.	Ratio of cases treated per 1000 of mean strength. First Quarter.	Second Quarter	Third Quarter.	Fourth Quarter.	Annual Results.
Northern.	1st Class. Posts on the coast of New England,	14	26	108	22	170
	2d " Posts on Northern chain of Lakes,	34	54	121	49	253
	3d " Posts north of latitude 39°, and remote from the ocean and inland seas,	32	54	163	56	305
Middle.	1st Class. Coast from Delaware Bay to Savannah,	41	133	204	65	455
	2d " Southwestern stations,	62	185	223	121	597
Southern.	1st Class. Posts on the Lower Mississippi,	126	135	117	72	456
	2d " Posts in the Peninsula of East Florida,	111	136	125	124	495
	Average,	54	107	166	75	405

The influence of season and climate upon these affections is very apparent; for, in the general average of the United States, the ratio of the third quarter is more than three-fold higher than that of the first, and more than twice as high as that of the fourth quarter. Compared with the ratios of intermitting and remitting fever, the laws developed in both exhibit a striking analogy. The average of diarrhœa and dysentery, like that of intermitting fever, is the lowest on the coast of New England, and the highest at the southwestern stations; and, like intermitting and remitting fever, the ratio augments with the increasing temperature of season and the decrease of latitude. Even the *relative* influence of the seasons, taking the average of the United States, is exemplified in proportions nearly equal: thus—

	1st qr.	2d qr.	3d qr.	4th qr.	Annual result.
Intermitting Fever,	45	75	156	93	368
Diarrhœa and Dysentery,	54	107	166	75	405

In the Northern Division, the annual ratio of cases per 1000 is 269, and in the Middle and Southern, the mean is 526. In the former, the proportion of deaths to the number treated is 1 in 665, and in the latter 1 in 141. The mortality per 10,000 of the strength is respectively 4 and 37. In the Northern Division, no death from dysentery is reported, except at Forts Crawford and Leavenworth—two posts at which intermittents are very prevalent. In Florida, the statistics of our troops present a singular relation, on comparing the second and third quarters, between intermittent fever and the class of diseases of the digestive organs, which last comprises diarrhœa, dysentery, gastritis, enteritis, &c. In the second quarter, the ratio of intermitting fever

is 9, and that of diseases of the digestive organs is 23 *per cent.;* but in the third quarter, the ratio of the former is 19, whilst that of the latter is only 17. As the average of the former is more than doubled in the third quarter, whilst that of the latter is decreased, it would seem, assuming an identity of cause, that the same morbific agents operating in a less intense degree, produce in the second quarter diseases of the digestive organs, and when more concentrated in their action, as in the third quarter, intermittent fever. A reference to the table will show that, in East Florida, the ratio of diarrhœa and dysentery is nearly the same in each season—a result arising mainly from the great prevalence of chronic diarrhœa, which supervenes upon febrile affections, continues throughout the year, and ultimately in many cases proves fatal.

In the West Indies, diseases of the stomach and bowels are very prevalent and fatal. Among the white troops, the ratio of cases per 1000 is 351, and the deaths 15; and among the blacks, the former is 89 and the latter six. It is in the Windward and Leeward command, that this class of diseases prevails most fatally, the proportion attacked annually being 421 per 1000, whilst in England it is only 95; and in the former, the ratio of mortality from this source, which is 21 per 1000, is forty times higher. The much lower ratio of gastric and intestinal affections in the Jamaica Command, in which dysentery and diarrhœa in particular assume a mild and tractable form, is ascribed by the Reporter to the circumstance that instead of salt meat, much fresh provisions are supplied. The statistics of 20 years show that in one Command in which the diet, for five days in the week, consisted of salt provisions, the mortality from this class of diseases was nine times as high as among the officers; whilst in another, in which salt provisions were issued but two days in the week, the mortality of these two ranks was nearly alike. In the Mediterranean stations, it is farther asserted that at Gibraltar where much salt provisions are consumed, this class of diseases is both prevalent and fatal, whilst at Malta, where the troops enjoy the advantage of fresh provisions, the disease does not prevail in an aggravated form. Among our troops, as the same ration is issued everywhere, it is highly probable that a quantity of salted pork which may be eaten with impunity in our northern regions, will become, in our southern domains, the active source of disease, In Canada, Nova Scotia, and New Brunswick, the annual ratio of the class of diseases of the stomach and bowels, is only 123 per 1000, and the ratio of mortality, 2 per 3000 of the strength.

The opinion that *Colic* and *Cholera* are much dependent on exalted temperature is not corroborated by these statistical researches. In the Northern Division, the annual ratio of cases per 1000 is 145, and in the Middle and Southern 131. In the former, however, nearly one half of the cases (1445) are reported among the cadets at West Point in a mean aggregate strength of 3734. Excluding this post, the ratio of the Northern Division is reduced to 96. In the Northern Division, only two deaths in 3221 cases are reported; and in the Middle and Southern, seven in 3282.

Of *Epidemic* or *Asiatic Cholera*, there were reported in 1832-3 and 4, 686 cases, of which 191 proved fatal. This, however, does not include all, as many troops, in the campaign against Black Hawk in 1832, fell victims to the disease, of which no official returns were made. It is a singular fact that this epidemic exerted its fatal influence in nearly the same ratio among all the troops whose statistics have been investigated; for example—

United Kingdom, ...	1832-3-4 . .	32 deaths per 100 cases.	
Gibraltar, ...	1834 . .	30 "	"
Nova Scotia and New Brunswick, .	1834 . .	28 "	"
Canada, ...	1832 . .	36 "	"
"	1834 . .	34 "	"
Black troops at Honduras, . .	1836 . .	32 "	"
United States, ...	1832-3-4 . .	28 "	"

Among our troops, the disease proved more fatal in the Northern than in the Southern and Middle Divisions, the ratio of deaths being in the former one to three cases, and in the latter one to 4.3. It is not, however, to be inferred from this fact that Cholera Asphyxia causes greater mortality in cold than in warm countries; for it was in the summer of 1832, when the disease was producing its greatest havoc, that our northern troops encountered it on its first invasion by way of Quebec and the lakes, along which it travelled with post-like regularity. On the contrary, it is a well-established fact that this disease is, in a measure, controlled by exalted temperature, and consequently influenced by causes of malarious origin. This was, at the time of its prevalence, inferred from the circumstances that it prevailed mostly in the summer and followed the course of our rivers; but statistical facts among our troops, in reference to the influence of the seasons, places this opinion almost beyond a doubt. Thus, among the 191 deaths reported in 1832-3-4, there occurred in the first quarter four, in the second 22, in the third 153, and in the fourth 12.

Another class of diseases ascribable, in a great measure, to malarious causes, is that of *dropsies*. In the Northern Division of the United States, there are reported fifty cases and four deaths, and in the Middle and Southern, 206 cases and 19 deaths, the annual average of cases being in the former two, and in the latter eight per 1000. As these effusions are the result mostly of febrile affections, it follows that malaria is the indirect cause; but in our southern latitudes, much is also attributable to the deleterious effects induced by ebriety. In the West Indies, the ratio of admissions and deaths from these affections, which are mostly the sequences of fevers, is also very high. Compared with England, the ratio in the Windward and Leeward Command is nearly as eight to one.

Hepatic affections, including acute and chronic hepatitis and icterus. In the Northern Division, there are reported 98 cases and three deaths, and in the Southern and Middle, 166 cases and four deaths. As these diseases are

generally believed to have an intimate relation with tropical temperature and with causes of malarious origin, this comparative result is very surprising; and, indeed, were the result not confirmed by the British statistics, the writer would have suspected some error in his own calculations. The ratios of cases and of deaths per 1000 of the strength, given in different countries, are as follows:—

	Cases.	Deaths.
United States,	6	·2
Canada, and Nova Scotia and New Brunswick,	8	·2
United Kingdom,	8	·5
Mediterranean Station,	16	·7
Bermudas,	14	·5
West Indies,—White troops,	18	1·5
" Black "	6	·7

When we refer to the fact that the high ratios occur among troops from northern latitudes, in the Mediterranean stations, the Bermudas, and among the white troops of the West Indies, it may be fairly inferred that these diseases are little influenced by temperature. In the British army statistics, it is remarked that considering the high temperature of the island of Jamaica, it will seem strange that the ratio of admissions from diseases of the liver, compared with troops in Britain, is only as ten to eight, and the deaths as one to four-tenths. It is in the East Indies that hepatitis finds a climate peculiarly favourable to its development.

In reference to the ratio of mortality arising from specific diseases, it is necessary to add that as the causes of one-eighth part of the deaths among our troops are not designated in the returns, it follows that these averages are too low; but as a majority of these unspecified deaths belongs to the class of sudden or casualties, it may be fairly assumed that the ratio of mortality from each disease is a sixteenth or a twentieth below the actual result.

I shall conclude these statistical facts with a table exhibiting the relative monthly mortality in the northern and southern regions of the United States, based on the returns made by the commanding officer of each post, during a period of ten years.

Divisions.	Mean aggregate strength.	Jan.	Feb.	March	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Northern.	22240	22	27	26	26	32	28	55	41	39	25	37	40	398
Middle and Southern.	24979	77	76	74	61	84	105	117	144	160	139	115	82	1234

In the Northern Division, there is little disparity in the relative mortality of each month, as the high ratio of July is caused by epidemic cholera; but in the Middle and Southern Divisions, the inequality is great in exact accordance with the increase and decrease of temperature. The lowest ratio (61) is in April, from which month it increases gradually until September (160),

and then it decreases in the same unvarying gradation, in proportion as the influence of the "sickly season" upon the animal economy subsides, until the re-appearance of April. In this gradation there is no exception, the increase and decrease being a regular progression step by step. The influence of causes of a malarial nature upon mortality in our southern latitudes is thus illustrated; but these effects are not manifested in our Northern Regions, owing to the circumstance that the diseases developed by malarious causes, such as intermittent fever, unlike the violent remittents of the south, do not exert a fatal tendency. In the Northern Division, according to the post returns given above, the annual ratio of mortality is 1.8 per cent., and in the Middle and Southern 4.9, whilst the mean of the three Divisions is 3.5 per cent. According to the regimental returns, the mortality for the same ten years, is 4.4 per cent. In the Middle and Southern Divisions, the ratio of cases under treatment is 50 per cent. higher than in the Northern; and the proportion of deaths to the number treated is nearly twice as high, the average being 1 in 75, and of the latter 1 in 144.

Having completed the investigation of the results afforded by the statistics of the United States troops, so far as diseases imputed to malarious sources are concerned, it remains to make some practical application of the laws developed. The subjoined classification of infectious agents, adopted in Copland's Dictionary of Practical Medicine, is presented merely as expressing the general sentiment of the profession upon the subject. Under the class of *ideo-infectants* or non-disseminating and non-perpetuating infections, his first order of agents, is, *Miasms or mephitic vapours*—endemic infection acting through the air.

Species of agents.	*Diseases resulting therefrom.*
1. Miasm from decayed vegetable matter aided by moisture, in temperate ranges of atmospheric heat.	Catarrhal fever. Rheumatic attacks. Intermittents. Enlargements of the spleen, and torpid states of the liver.
2. Exhalations from absorbent, or deep exuberant, or marshy soils, suspended in atmospheric humidity at temperate grades of warmth.	Intermittents. Remittents. Simple Dysentery. Simple Cholera. Bilious fevers. Obstructions and other diseases of the liver and glandular organs.
3. Miasms or vapours from decayed vegetable matter, or from marshes and rich, deep, and humid soils, at high ranges of temperature.	Inflammatory, bilious, and gastric fevers of both a remittent and continued type. Diseases chiefly of the abdominal viscera.

Epidemic and exanthematic typhus and true yellow fever are put under the head of specific infections, which propagate their kind by a diffused and impalpable effluvium or vapour, emanating from the secretions, excretions, and surfaces of persons already affected. It need scarcely be added that the propriety of placing yellow fever in the same category with typhus, may be reasonably doubted. It is probable, however, that fevers which have, or are

supposed to have, their source in vegetable miasms, or at least in effluvia from marshes, may subsequently spread by contagion.

Upon what evidence it is asserted that "catarrhal fever" and "rheumatic attacks" arise from "miasm from decayed vegetable matter aided by moisture, in temperate ranges of atmospheric heat," it were no easy matter to determine. In medicine, we are too apt to revere the *verba magistri*, one teacher blindly repeating, and one writer blindly copying, the dicta of predecessors, as if oracular. That catarrhal fever has not the remotest connection with malarial causes, is demonstrated by the statistics of our troops. As the ratio of intermittent and remittent fever is about five times higher in our southern than in our northern latitudes, and as that of catarrhal affections is twice as high in the latter, it follows that as the results are in an *inverse* proportion, no relation of cause and effect is discoverable. As the classification, however, limits the production of catarrhal fever to "temperate ranges of atmospheric heat, aided by moisture," it may be said that it applies only to our northern regions. In diametrical opposition then to this view, it is found that in the winter, when no "miasm from decayed vegetable matter" arises, the ratio is twice as high as in summer; and that the annual ratio in the moist climate of the lakes and the coast of New England is not more than half as high as that of the dry climate of the regions remote from large bodies of water. In reference to Rheumatism, the same remarks are applicable, but in a less marked degree.

Thus far the writer has dealt pretty much in facts; but in entering upon the investigation of the essential nature of the effluvium from marshes, termed malaria, he feels that he has passed into the regions of speculation. The history of medical science shows that the subject of *Fever* has, at all times, been regarded as presenting the most extensive and inviting field for observation and the exercise of a philosophic mind. This arises from its paramount importance among the long list of human maladies. It is a subject, at the same time, eminently calculated to humble the pride of human reason; inasmuch as the mind of man, engaged upon it for near 3000 years, has failed to determine its essential nature or causes.

The causes of epidemic, endemic, and contagious diseases, have never received satisfactory elucidation. Notwithstanding we are acquainted with some of the laws which govern malaria, we can no more describe the *constitutio aëris*, which gives rise to endemico-epidemics, than we can define the inscrutable vapors which generate typhus fever or small-pox. In these researches, the object has been rather to point out effects than to speculate upon causes; and although some of the laws by which diseases of malarial origin are controlled in reference to the seasons and our systems of climate, have been developed, yet our knowledge of meteorology is wholly insufficient for the explanation of the precise nature or operation of such influences.

As endemic diseases are produced by a concurrence of causes acting constantly or periodically in certain localities, so it may be supposed that the diseases of each are no less dependent upon peculiar physical causes than its

animal, vegetable, or mineral productions. As the influence of a certain soil or climate gives an inexplicable peculiarity to vegetation, which we cannot imitate by artificial means, so certain diseases are confined to specific localities—some appear periodically in certain situations—whilst others are rife in particular seasons, influenced by the various causes which modify the constitution of climate. Difference of climate, as it regards its agency upon health and the organic modifications which the human frame experiences from this cause, depends no less upon certain emanations from the soil, which is composed of organic remains and comminuted mineral substances, than upon those other conditions of the atmosphere, arising from its hygrometrical, thermometrical, barometrical, and electrical states. Although the morbific cause may be general and widely diffused, yet it is mostly modified by local influences, constituting an *endemico-epidemic*. An example in point is presented in the history of epidemic cholera, the visitations of which, in the United States at least, were much favoured by the high temperature of summer and by the peculiar atmosphere of towns situated on seas and rivers. We sometimes see a district signalized for its salubrity, desolated by a malignant fever, the production of which required a combination of certain local and general causes; but as this precise concatenation of causes may never re-occur, so the inhabitants may remain exempt from a similar scourge. The occasional appearance of yellow fever in our northern cities may be thus explained. When, on the contrary, a particular disease appears every year in a certain locality, it may be presumed that the local causes, influenced by season alone, are always present, and that it requires but little change in the general atmospheric constitution to induce the necessary causation. We may thus account for the high ratio of intermittent fever in many parts of the United States and of remittent fever in the southern regions, and for the annual appearance in some of our southern sea-ports of yellow fever,—a disease which seems to be indissolubly connected with soil and climate. As an illustration of the remark that malaria sometimes makes its appearance in places which had previously enjoyed a complete exemption, I may mention that, at the Narrows near New York, intermittents and remittents appeared, in 1828, in their severest forms among the labourers employed in the erection of Fort Hamilton; and, at the same time, Staten Island and the elevated coast of Long Island in the vicinity of the Narrows, where a case of intermitting fever had been almost wholly unknown, became so subject to these febrile diseases, as to drive the inhabitants from their possessions. In like manner, on the elevated banks of the Schuylkill, villas were erected at a time when intermittents were scarcely known; but, in consequence of their great prevalence in late years, many of them have been abandoned.

The modifications of the atmosphere which give rise to epidemic, endemic, and contagious diseases, have proved totally inappreciable by endiometic researches. That the comparative unhealthiness of low, swampy situa-

tions, depends upon an admixture of terrestrial emanations with the common atmospheric elements, is obvious; but these agents, if we except the recent experiments of Majendie, have always escaped the researches of the chemical pathologist. As our *false* facts are numerous, the speculatist has consequently found, in the obscurity of this subject, ample scope for hypothesis.

Yet the unprejudiced mind, in viewing the whole question, notwithstanding the impracticability of demonstrating the precise nature of *marsh poison*, is inclined to adhere, satisfied to argue from effects, to the opinion sanctioned by the general consent of mankind, viz., that malaria has its source in organic remains. One fact is evident, viz., that a marshy soil, previously submerged, exposed to the action of solar heat, will develope that mysterious and subtle agent called *malaria;* and that this emanation is the result of the decomposition of dead organic substances, producing new compounds by the combination of their elements, is an opinion warranted by the strongest evidence short of demonstration. We know from experience that marshy districts in almost all countries are the *foyers* of disease, and that the deltas of large rivers are apt to teem with malarious exhalations. The *detritus* thus annually brought down rivers, no matter whether united with earths of a sandy, a calcareous, or an argillaceous nature, will give rise to these miasmata; but soils of a humid character are doubtless best calculated to maintain these organic remains in a condition favourable for solar action. It was remarked of old, that the inundations of the Nile, at the same time, scatter fertility over the valley of Egypt, and sow with a liberal hand the prolific seeds of disease. The knowledge that we possess on this subject would enable us, on viewing the climate and topography of the lower Mississippi, to pronounce at once upon the true character of the soil; and in surveying the locality of Fort Gibson, originally a cane-brake, formed of the alluvion of three streams, whilst the exhalations of miry lagoons are, during the extraordinary heats of summer, wafted over the fort by the prevailing winds, the presence of the physical conditions causing malarious diseases, would be immediately recognized.

One of the circumstances most essentially connected with the production of malaria, is heat; for, in proportion as the equatorial regions are approached, do febrile endemics become more rife and malignant—a remark which applies equally to the relative influence of the seasons. Heat alone is not, however, sufficient, inasmuch as the diseases of the Nile never extend into the neighboring desert; and in like manner, in our southern regions, whilst the margins of streams, lakes, and marshes are rife with malarial diseases, the sandy pine woods are exempt from them. As all those cities and military stations, which have been, in every quarter of the world, the graves of unnumbered thousands, have occupied the banks or deltas of rivers, in low flat countries, it would seem that moisture is also an essential ingredient in its production; but these two agents, heat and moisture, however requisite, are not in themselves adequate causes; for vessels at a small distance from the land, in the rainy season

of the hottest climate, will continue healthy, if proper police regulations are maintained. It appears then that heat and moisture, however essential, require the co-operation of other agents. What these conditions are, has been plainly indicated at all periods of the world. The same causes that were in action on the banks of the Nile, the Lernean marshes, and the Campania di Roma, are now found in operation in the rice swamps of our southern States and the marshy lowlands that skirt the coast and rivers from Delaware Bay southward, viz:, a soil abounding in organic remains. In the operation of heat and moisture, however, this striking distinction obtains, that heat acts in proportion to its intensity, whilst excess of moisture is no less inimical to the generation of malaria than its deficiency. Hence it is necessary in considering the conditions most favourable to the evolution of malaria, to distinguish between a moist and rainy season. To submerge completely marshy lands, it is well known, is one of the means of obviating their insalubrity. Animal and vegetable decomposition is regulated by the degree of heat and moisture combined. If moisture be increased until the air is excluded from the vegetable matter, decomposition is suspended; and the same effect is induced, if the temperature be reduced to the freezing point, or increased until all moisture is dissipated. The body of an animal is no less preserved in the arid deserts of Africa than in the frigid regions of the north. In the one case, the fluids are congealed, and in the other so quickly evaporated that it actually becomes a dried preparation.

Although the essential causes of malaria may remain forever involved in obscurity, yet the important agency of heat and moisture in its causation, as shown in the statistics of our troops in the fact that the annual ratio of intermittents and remittents is five-fold greater in our southern than northern latitudes, and that a contrast equally great is exhibited between the first and third quarter of the year, is satisfactorily demonstrated. These laws are confirmed by the results of the British statistics, which, as the average of each month is given, illustrate still more fully the influence of the seasons. As the sun proceeds northward in the ecliptic, bearing in his train heat and moisture, the northern colonies of the West Indies experience later than the southern ones, the period termed the unhealthy season. It has also been observed that in the Mediterranean stations, the ratio of admissions and deaths between July and October is nearly twice as high as at any other period of the year. The statistics of Canada lead to the same result, but in a less marked degree. The most striking exemplification of the law that the "sickly season" coincides with the time when the greatest degree of heat and moisture is combined, is afforded in the fact that positions north and south of the equator, in consequence of the seasons being reversed, become most insalubrious at periods precisely opposite.

In the ratio of diseases of malarial origin, there is great variation from year to year. At Fort Crawford, Wisconsin, Lat. 43° 03′, for example, there were reported, in the third quarter of 1830, 154 cases of intermittent and remit-

tent fever, and in the same quarter of 1836, there occurred but one case, notwithstanding the strength was greater. Believing that temperature had some relation with this wide disparity, I arranged the results as under:

Years.	Mean temperature.			Highest Degree.	Quantity of rain in inches, in July and August.	Ratio of cases of intermittent and remittent fever, per 100 of str'gth.
	July.	August.	July and August.			
1829	74.33	73 76	74.05	94		3
1830	81.47	77.07	79.27	94		72
1831	76.56	71.93	74 24	98		33
1832	74.41	70.09	72.25	94		1
1833	78.73	76.58	77.65	98		8
1834	80.49	77.55	79.02	98		14
1835	73.80	69.62	71.71	94		3
1836	73 00	66.66	69 83	90	5.50	.4
1837	73.83	70.87	72.35	95	5.48	17
1838	78 61	73.90	76.26	97	8.24	19

No Register.

As there are doubtless many modifying causes, the precise influence of elevated temperature cannot be determined; but it is seen in the above table that in 1830, when the mean temperature of July and August was highest, the ratio of intermitting and remitting fever was 72 cases per 100 men, and that in 1836, when the temperature was lowest, the average was only .4 per centum. The years 1835 and 1832 are the lowest next in order, both in regard to temperature and the prevalence of fevers. The observations on the pluviometer are too limited to afford data for comparison.

In elucidation of the influence of temperature, another example will be given. In the island of Jamaica, as the elevation of the lands in the interior causes a corresponding modification of temperature, almost every variety of climate is presented. At the height of 4,200 feet, the vegetation of the tropics gives place to that of temperate regions; and here the inhabitants enjoy a complete exemption from the violent bilious remittents which cut off thousands annually along the coast. In these elevated regions, we are told that the inhabitants, far from presenting the pallid and sickly aspect of those that dwell along the coast, exhibit that ruddy glow of health which tinges the countenance in northern climes. At Maroon Town, elevated more than 2000 feet above the level of the sea, the annual mortality of the troops is only 33 per 1000, notwithstanding many of the deaths originated from disease contracted at other stations; whilst at Montego Bay on the coast, the ratio rises to 179, and at Savannah La Mar, even to 200. That yellow fever is never found above the height of 2,500 feet, was long since determined by Humboldt.

In the production of malaria, there may be other agents at work equally essential with heat and moisture. As the developement of electric phenomena has an intimate connection with heat and moisture, electricity may also be an indispensable auxiliary. Between miasmata and mere effluvia, there is no doubt a wide distinction. The latter, which are nothing more than the elements of a compound body, are generally as innoxious as the compound itself; but the former may be new compounds, resulting from the play of affinities among these liberated atoms. As the ordinary operations of nature do not tend to her own destruction, so organic substances, it may be supposed, are

decomposed, and the atoms re-united in such combinations as generally prove harmless to man. The workshop of the "knacker," whose occupation is to convert dead animal matter to various useful purposes, though repulsively offensive, is not unwholesome; and the tainted atmosphere of the dissecting room, breathed month after month, generates no endemic fever. Morbid action seems, therefore, not to be induced by the mere decomposition of matter, but by the combinations which, under peculiar circumstances, result. Thus it is an ordinary law of nature that the human body, when life is extinguished, shall return to its original elements; but under certain modifying circumstances, it is converted into *adipocire*. The mere effluvia of dead animal or vegetable matter may differ as much from miasmata or malaria, as oxygen or hydrogen does from the various compounds of which it forms a component part. These miasmatic compounds, generated under different circumstances, or the same causes acting upon different constitutions or upon different states of the same constitution, produce, it may be assumed, in one case intermittent, in another remittent, and *perhaps* in a third, that higher grade known as yellow fever.

To prove that malaria is not the product of vegetable decomposition, frequent reference is made to the fact observed by Dr. Ferguson, that malarious fevers prevailed to a great extent among the British troops when encamped on the rocky and arid tracts near Lisbon in Spain. "In the month of June and July," he says, "the British army marched through the singularly dry, rocky, and elevated country on the confines of Portugal, the weather having been previously so hot, for several weeks, as to dry up the mountain-streams. In some of the hilly ravines, *that had lately been water-courses*, several regiments took up their bivouac, for the sake of being near the stagnant pools of water that were still left among the rocks. Many men were seized with intermittent fever." Notwithstanding a country may be arid and parched, the heavy dews at night, without reference to the moisture beneath the surface, may be sufficient in "*ravines that had lately been water-courses*," to cause the generation of miasmata. As every soil productive of vegetation contains organic remains, so it is impregnated with one at least of the elements of malaria. Should the temperature be low as in winter, no poison is generated. Should moisture be wanting or water superabound, the same result may be predicted. Even admitting that these "water courses" were rocky channels, enough of organic remains may have been deposited by the recent "mountain-streams" to produce, when acted upon by the moisture of dews, the results that followed.

In the recent statistical Reports of the British army, the Reporter arrives at the conclusion, from an examination of the subject in every quarter of the globe, that the prevalence of intermittent and remittent fever does not depend materially on the influence of moisture or high temperature; aye, and more than this, it is alleged "that though the vicinity of marshy or swampy ground *appears* to favor the developement of that agency [malaria], it does not necessarily prevail in such localities, nor are they *by any means essential*

either to its existence or operation." This opinion is based, among other facts, upon the circumstance that intermittents are very rife in Upper Canada, whilst in Nova Scotia, under circumstances apparently similar, the inhabitants enjoy an exemption; and that yellow fever frequently appears at Ireland island, one of the Bermudas, a rocky and barren spot, containing no marsh and little or no vegetation. In reply to this, it may be said that in reference to the cause of yellow fever, we know but little, and are wholly unauthorised to ascribe it positively to paludal origin; and as to the induction by which intermittent fever is traced to the agency of a marshy locality, notwithstanding the exceptions adduced in Nova Scotia, as well as the singular exemption on the coast of New England, the every day experience of our army surgeons and of the practitioners of our newly settled regions, confirms its truth.

In Canada and the United States, it is a fact well known from their earliest history, that although cultivation renders a climate more salubrious, yet its endemic diseases, for several years after the soil is cleared from its more bulky vegetable productions, often become more severe than previously, and not unfrequently assume an epidemic character. The surface of the earth exposed to the sun's rays, yields a more noxious effluvium than when protected from its action by a dense and exuberant vegetation. That a partially cultivated region is more sickly than a wilderness or country in the highest state of agricultural improvement, is a well known fact. The soldier, the hunter, and the wild borderer, suffer less from disease than the actual settler. The diseases of the former class are mostly of an inflammatory character resulting from fatigue and exposure; but as soon as the permanent settler begins to fell the forest, leaving the branches to undergo decomposition, and to turn up to the action of our intense summer heats the marshy ground, composed of the accumulated vegetable and animal deposition of years, deleterious agents are exhaled, giving rise to the most malignant endemics.

An example of this kind fell under the observation of the writer, when stationed at Fort King, in the interior of East Florida, in the summer of 1837. This post, the old Seminole agency, which had been maintained for some years prior to Indian hostilities, was always remarkable for its healthfulness; but in the latter part of the summer just mentioned, violent fevers of the remittent form and intermittents running into the same type, occurred, ascribable apparently to the circumstance of the smaller trees and undergrowth of a vicinal jungle, called a *hammock*, having been cut down as a precaution against Indian ambuscade. Much of the surface of this hammock consisted of a trembling soil, to many yards of which motion might be communicated by an effort simply of the foot. This crust which would bear the weight of a dog, would not sustain that of a horse, as was proved by several sad illustrations.

I may here allude to the recent experiments of Majendie, without attempting to base any argument upon them. He states that having condensed, by means of cold and other agents, a quantity of marsh atmosphere, a considera-

ble residuum of animal or vegetable matter was obtained, which had a tendency to run into putrefaction with the greatest rapidity. Having performed a series of experiments upon animals by injecting this matter into the veins, M. Majendie discovered that the lesions pathognominic of *yellow fever*, were induced. In an animal, which died two hours after the injection of a little putrid matter into the veins, autopsy revealed the following lesions:—The blood was liquefied, and the muscles exhibited a remarkable punctuated red colouration, caused by a vast number of petechiæ; and the mucous coat of the intestines was found raised by a deposition of blood in the subjacent cellular tissue, and the surface covered with large patches of albumen and mucus. The partizans of inflammation would, according to Majendie, regard this as a case of decided gastro-enteritis; but he can see nothing more in it than the distension of the capillary vessels with blackish fluid blood, which having become dissociated in its elements, partially transudes the intestinal tunics. These experiments oft repeated presented the same pathological phenomena, more or less marked in proportion to the duration of the disease before causing death.

That these disorders are not the result of a general cause is evident from the fact, that the injection of different substances will produce specific lesions of different organs. Thus subcarbonate of soda disorganizes the thoracic viscera; the lungs become distended with blood, which gushes out when an incision is made into their substance, and a bloody fluid is effused into the pleura, constituting, in the nomenclature of pathologists, a case of pleuro-pneumonia. The blood when liquefied by the subcarbonate of soda, exercises, indeed, a specific influence; for the various tissues and organs of the abdominal cavity are found in a normal condition.

In those cases in which death very quickly follows the introduction of a few drops of putrid water into the veins, causing the ejection by vomiting of blackish clammy liquid, like that in yellow fever, and the mucous membrane is found covered, throughout its whole extent, with extravasations of blood, Majendie attributes the result to a change in the constitution of the blood, and not to a modification in the properties of the walls of the vessels. This change in the properties of the blood, which is no longer adapted to that of the ducts in which it flows, he regards as the first link in the chain of abnormal actions, whilst the organic lesions are secondary phenomena.

These experiments afford corroborative evidence of the opinion that malaria has its source in organic remains. Heretofore, the etiologist could argue only from effects; and when he found that certain results always followed the conjoint operation of certain causes, he was justified, upon every principle of analogy, to assume the existence of the relation of cause and effect. Now, however, it may be said that malaria has, in a measure, been compelled to put on a tangible shape, and to confess its secret power, thus almost demonstrating its effects on the animal economy. The subject, however, is still enveloped in deep obscurity; and to him fortunate enough to enrich science by unravelling its mysteries, a proud immortality is destined.

ART. II.—*Notes of Observations in Obstetric Pathology.* By CHANDLER R. GILMAN, M. D., Professor of Obstetrics and the Diseases of Women and Children, in the College of Physicians and Surgeons, New York.

I SUBMIT to the notice of the readers of the American Journal of the Medical Sciences, the following notes of some of the observations in Obstetric Pathology, made by me during the past winter. I am aware that detached observations of this sort, when merely noted down in their simplicity, and presented without any elaborate detail, have but little attraction for the generality of medical readers. Still, before pathology can become what we all desire to see it, a science of facts, many single observations must be added to the already accumulated store. In this state of the case, it seems to me that no one who will observe facts with care, and record them with fidelity, need fear that his labour should be entirely without value. I have another and a personal reason for offering these notes to the public. By the kindness of my medical friends, I have many opportunities of making autopsies and procuring preparations from cases which occur in their practice. It appears to me that I shall best show my sense of these acts of kindness, not only by striving to improve to the utmost the opportunities thus afforded me, but by disseminating as widely as I can the knowledge of the facts I thus collect.

CASE I. *Case of Tubal Pregnancy.*—I was requested by my friend Dr. Weeks, to assist him in the examination of the body of a female patient, about the nature of whose case there had been great difference of opinion among those medical gentlemen who had seen her. I had called on this patient once, with Dr. W., but she would not then submit to an examination, so that I had no knowledge of her case except from Dr. Weeks. From him I obtained the following history:—

Mrs. ———, ætat. 43, who had several times miscarried, but never had a living child, supposed herself pregnant in October, 1839. She passed the first months of gestation without accident, and quickened about 1st March, 1840. In April, she was taken with a flooding after an attempt to lift a heavy weight. Fearing a miscarriage, and being exceedingly anxious to have a living child, she immediately sent for Dr. W. The usual means were employed, and the symptoms gradually passed away. In the course of the next month or six weeks, she had two or three slighter attacks of the same sort, which readily yielded to rest and mild remedies. In May, being then between six and seven months, she had a violent attack—profuse hæmorrhage and very severe paroxysmal pain, a miscarriage was now deemed inevitable, and but little was done to prevent it. Nothing, however, except blood was discharged, and after several hours of suffering, the symptoms

abated and finally disappeared. To this time, the motion of the child had been felt distinctly, but after this, it ceased entirely. The patient kept about most of the time, but during the next three months, had several attacks of pain, tenderness in the belly, fever, and the other symptoms of peritonitis. She was treated by such antiphlogistic means as her state of general health permitted, leeches being frequently employed. From these repeated attacks, her health gradually failed; after one of more than ordinary severity in October, 1840, fluctuation was detected in that part of the tumour which occupied the right iliac region—the skin became red and thin, an abscess was evidently pointing; it was freely opened, and a very large quantity (the doctor thinks two gallons at least) of gray and very fœtid pus was discharged. A slight improvement of the general health followed, but it was only temporary—the patient soon began to sink, and died December 7, 1840.

Before death the abscess opened in the two other places in the right groin and pus was discharged from the bladder and the rectum.

Post mortem examination—20 hours after death. Body much emaciated. The abdomen was distended below the umbilicus by a tumour about the size of the uterus at six months. It did not present in the median line, but rather to the right of it. There were three openings in the right groin, one, the largest, from which the pus was first discharged—was oval, an inch in its greatest diameter, situated two inches inwards and downwards from the anterior superior iliac spine. The others were smaller and just below the first.

The abdomen was now laid open. The whole hypogastric region—the right iliac and a part of the left were occupied by a tumour which was embedded among the pelvic viscera and closely adherent to all the parts with which it was in contact, particularly to the bladder and the rectum. This tumour was a sac or cyst with thin walls, in which were three openings, answering to those in the skin. These openings were necessarily enlarged in removing the abdominal walls, to which they adhered intimately and extensively. In the cyst was a pultaceous mass of an ash gray colour and most abominable fœtor; in this mass the bones of a fœtus of about the sixth month were found, some quite detached, others, particularly those of the legs, adhering together and covered with shreds of decayed soft parts. These were removed and the sac cleared out; next it, together with the whole contents of the pelvis, was removed and taken to the college for examination.

The parts were so completely matted together, that it was only after considerable labour and great care that our demonstrator of anatomy, Dr. Quackenboss succeeded in unravelling them and making them out satisfactorily. The sac was found to consist of the left Fallopian tube largely dilated. This dilatation began about a half inch from the uterus to which point the tube was normal in external appearance, though not pervious. The sac had five openings, three answering to those in the skin as before noted and two into the bladder. Of these latter one would barely admit the tip of the finger, the

other was an inch in diameter. The coats of the bladder were thickened and its internal lining membrane very much corrugated. As this was the first case of tubal pregnancy I had ever seen, I took the opportunity to examine as carefully as I could, the intimate structure of the tube, as to its muscularity. The peritoneum was removed and muscular fibre was I think clearly made out—indeed it would not have been easy to distinguish between the tube at that point and any portion of a gravid uterus when uncontracted.

The uterus was next examined; it had been crowded down into the cavity of the pelvis, on the right side, where it had contracted the most intimate adhesions with the sac above, the rectum and the pelvic paries. The right ovary, tube and broad ligament were all matted together, closely adherent to the uterus. When separated the uterus was found perfectly normal in appearance except that I think the walls were slightly hypertrophied. The cavity was quite empty.

There was no evidence that decidua had ever been formed in it; but of course this case will prove nothing, as to the now disputed point whether decidua does form in the cavity of the uterus in tubal pregnancies, as the membrane if formed may have been thrown off by the parturient efforts and escaped notice among the coagula. Thus far the examination had been satisfactory in every point except as to the pus which had passed per anum.

But the tubal cyst did not communicate with any part of the intestinal canal. On examining the rectum, the cavity of an abscess, large enough to hold a small orange, was found in the recto-vaginal septum pretty high up. This abscess communicated with the rectum by a minute opening, through which its contents had been evacuated, for it was nearly empty. Pus was therefore poured out in this case, from the sac through the openings in the abdominal walls and through the bladder; and from the abscess in the recto-vaginal septum through the rectum.

This case is interesting in a practical point of view, as proving how easily and how safely the Cæsarian section might have been performed. The sac was so extensively adherent to the peritoneum, that an incision might have been made into it, large enough to have delivered the child, without any danger of opening the cavity of the peritoneum. In this respect the state of the parts was exactly similar to that found by Michaelis, of Keil, in the patient on whom he operated in 1836 for the fourth time.

Case II. *Examination of the Uterus twenty-four hours after Delivery, with some Remarks on the Utero-Placental Circulation.*—I was requested by Dr. Archer, the coroner, to assist in the examination of the body of a young woman, who died, soon after delivery, at the house of a Mrs. Bird, a self-styled midwife. The examination was made by Drs. Kissam, Coolidge, and myself. The girl was said to have died of hemorrhage. The case was of no interest in a medico-legal point of view, and I shall only detail the appearances of the uterus, which I examined with great

care. Viewed externally, it was pale, and it felt flabby to the touch; on laying open its cavity the cervix and os were found very much ecchymosed, as was also the inferior portion of the vagina. I note this ecchymosis merely to say that it is normal, and will be found in most, if not in all cases; yet I have recently seen it noted as a pathological state, and characteristic of metritis. The placenta had been attached to the posterior wall, on the right side, its upper margin just overlapping the orifice of the tube. The place of attachment was indicated by many large openings in the internal lining membrane; these were evidently the orifices of the uterine sinuses; they were for the most part plugged up with pretty firm coagula, a few of them, however, were empty. The coagula were next carefully removed by subjecting the part to a stream of water for a long time. The openings into the sinuses were now examined. They varied in diameter from two to six lines; they were generally elliptical or semicircular in shape and the edges so arranged as to form either a single or a double valve. To comprehend this fully it is necessary to bear in mind that the inner layer of uterine structure, though at other parts imperforated by large vessels, is where the placenta is attached, traversed by so many and such large veins and curling arteries, that its whole texture is cribriform, and in many places the vessels are separated by a septum of uterine structure scarce thicker than membrane. Now when the large sinuses are about to terminate on the inner surface of the uterus, the orifice is diminished sometimes from one side and sometimes from both, by a flap of thin fibres which projects over it, in the one case leaving a semicircular, and in the other an elliptical opening always much smaller than the sinus just within. These thin flaps can be lifted up with the probe, and thus, without tearing any thing, the orifice be doubled in size. This valvular arrangement seems to me to obviate one of the objections to Lee's view of the utero-placental circulation, viz., that the decidua is not sufficiently strong to confine the blood in the sinuses. It would seem that these openings are for the most part closed, not by superimposed decidua, but by a valvular flap of true uterine structure. But I am digressing; the orifices of these sinuses were now examined with all the care possible under a microscope of high power. The margin was perfectly smooth, clean, regular in its minute structure, and every where well defined. I then examined the inner lining membrane of the sinus from the depth of a line or more to the orifice; it was smooth, regular, and terminated at the verge of the opening in a clean edge free from shreds or any other evidences of laceration.

This observation, though of infinitely less value than it would have been had the placenta still adhered, yet seems to me to be worth recording, as throwing some rays of light on the subject of the utero-placental circulation, a subject involved in great obscurity, and still made matter of many and pretty fierce disputes. The opinion of the Hunters that the uterine sinuses passed the decidua and terminate in the cellular structure of the placenta,

was, I believe, first controverted by Dr. Robert Lee of London. One of his strongest proofs is the fact which my observation confirms, viz., that the openings of the uterine sinuses have perfectly smooth, well defined and regular margins, which they certainly would not have if they were the torn extremities of vessels which passed through the decidua. That these margins were perfectly smooth in my case, I can prove by the testimony of Dr. Gray, whose researches in botany have made him for years familiar with the microscope. Now if we adopt the opinions of Hunter, as many of the English physiologists still seem inclined to do, how is it possible to explain this regular and clean state of the termination of the sinuses, since they must have been torn off when the placenta was removed. To my mind it appears purely impossible. By the January number of the *Edinburgh Medical and Surgical Journal*, I see that Professor Reid has advanced a new opinion on this subject. He believes that tufts composed of minute arteries and veins, continuous with the umbilical placental vessels, project into the uterine sinuses, and that the internal lining membrane of the uterine sinuses is reflected upon these tufts, sometimes at the point where they enter the sinus, and sometimes merely at their apices. Thus every one of the minute terminal vessels of the placenta "is closely ensheathed in prolongations of the inner coat of the vascular system of the mother, or at least in a membrane continuous with it."

"When the blood of the mother flows into the placenta, it passes into a large sac formed by the inner coat of the vascular system of the mother, which is intersected in many thousand different directions by the placental tufts projecting into it like fringes, and pushing its thin wall before them in the form of sheaths which closely envelope both the trunk and each individual branch composing these tufts." "From this sac the maternal blood is returned by the utero-placental veins, without having been extravasated and without having left her own system of vessels." Now, as to one part of this theory, and that its distinctive feature, viz., the prolongations of the fœtal placental vessels, into some of the uterine sinuses, my case does not authorise me to speak; but as to the other portion of it, the prolongation of the inner lining membrane of the sinuses into the placenta, it seems to me that the perfectly smooth margin that the orifices of these sinuses present, is as fatal to it as to the view of Hunter; indeed, I do not see that there is anything but a difference of phraseology to distinguish the view of Hunter from that of Reid. The sac which according to Reid, is formed by the prolongation of the inner coat of the vascular system of the mother, is, it appears to me, in every thing but name identical with the placental cells of Hunter, "in which the curling arteries terminate, and into which the venous sinuses are prolonged."

Case III. *Dissection of a case of Spina Bifida, with Remarks.*—It was very justly remarked by the editor of the Medico-Chirurgical Review, in a late number, that the exact nature of this malformation is by no means

accurately apprehended by the mass even of the surgical part of the profession. For many seem to regard it merely as an expansion of the dura mater, consequent upon the absence of that support which, in the normal state of the parts, the bony canal gives to it. The existence of this sac, its being filled with serum, constitutes the disease—and when mischief follows pressure upon this sac, it is generally referred with great confidence to the return of its fluid contents into the cavity of the spinal dura mater.

This is the view of this malformation taken by Cooper in his Dictionary of Surgery; by Good, who calls the disease Hydrops Spinæ, and by most of the writers of text books of surgery and of obstetrics. The fact that the sac frequently, or indeed that it ever has any other contents than the serum that distends it, is never so much as hinted at by these authors. In this case, as in most others, mischievous plans of treatment have been the natural consequences of imperfect pathological knowledge. Hence we hear every now and then of the sac being tied—laid open, of pressure being applied—all remedies adopted to get rid of the fluid, and pursued under the impression that to evacuate the sac and prevent serum from again collecting in it, is all that is required to cure the disease, and that on doing this, little more care is necessary than in evacuating a psoas abscess or a hydrocele. It is true that a better notion of the nature of this malformation has been taught by some authors; but their views do not seem to me to have *fallen into the current* of medical literature, or to have been brought fairly and fully before the profession. In this state of things, I have thought it worth while, taking advantage of a very well marked case of this somewhat rare malformation, which has recently come under my notice, to describe as fully and accurately as I can, the exact morbid anatomy of this case. If by so doing, I succeed in preventing in any one case that rash and mischievous meddling which too often hurries these cases to the fatal issue, my labour will not be in vain.

Mrs. B———, ætat. 40, mother of six healthy children, was delivered March 7, of a dead child, after a labour of six hours. The child was above the average size, and very well nourished; limbs and body plump, features regular, nails and hair well grown, and in every respect fully developed. It was hydrocephalic and a tumour six inches in circumference projected from the spinal column, opposite the middle lumbar vertebra. The child had both feet clubbed and one knee was stiff—and I would here mention, as illustrating the well known law that several malformations often occur in the same individual, that in the subsequent examination we found that there was but one umbilical artery and that both ureters were double, the canals uniting just as they penetrated the coats of the bladder. These malformations follow the law laid down by St. Hilaire, who says that "spina bifida co-exists often with anomalies affecting the organs placed in front about the level of the loins." *Hist. des Anomalies*, &c., tome i, p. 435. The tumour was a thin semi-transparent bag, through which the reddish colour of the contained fluid could easily be distinguished.

The spinal canal was now laid open from the atlas to the second lumbar vertebra, at which latter, the opening through which the sack protruded, began. The upper portion of the medulla was normal in appearance, but about opposite the fourth dorsal vertebra, it suddenly diminished in size nearly one half. The spinous process of the last dorsal vertebra was completely ossified, its two lateral portions having united by bone; this union was not complete in the first lumbar, and in the second all was cartilage. In the third, fourth, aud fifth, this was wanting, and through the space thus left, the sac, which consisted only of the spinal meninges covered with epidermis, protruded. Before examining the sac farther, the sacral canal was laid open below the tumour, it did not contain any dura mater, but the nerves passed out as usual through the sacral foramina. It was now evident that the sac did not consist of a mere tumour in the course of the spinal dura mater and bearing the same relation to it that an aneurism does to its artery, but that it was the termination of that canal enlarged into a sort of bulb, and protruded through the space left open in the bony canal. The sac was now laid open and its contents made the subject of careful observation. The cauda equina passed in at the upper edge of the spinal opening and over the greater curvature of the sac. It adhered pretty firmly to the inner surface. Was it owing to these adhesions. that it had been protruded from the spinal canal? While passing over the great curve of the sac the cauda equina gave off two pair of lumbar nerves, which passed down the sides of the sac to which also they adhered at two or three points. The cauda equina thus diminished, having traversed the greater curvature of the sac, perforated it at its inferior margin and passed into the spinal and sacral canal to its usual distribution.

Remarks.—We have here a case in which the whole cauda equina passed into the sac of the spina bifida. To what extent this protrusion of the nerves was dependent on their being adherent to the inner surface of the sac, it will require farther observations to establish—in the meantime, the fact that such an adhesion did exist, is not without interest. Cases in which the posterior branches of the spinal nerves have passed into the sac are not very rare, and some, I am aware, have been recorded in which the whole cauda equina had passed from the spinal canal, constituting what Lecat (*Traité du Mouvement Musculaire*) calls hernia of the medulla: still it would seem from the manner in which the important variety yet remains unnoticed by the systematic writers, that something is yet wanting to bring the fact that the tumour of spina bifida frequently contains large nerves, and sometimes the whole cauda equina, fairly before the profession.

Case IV. *Corroding Ulcer, with complete destruction of all the internal organs of generation.—April 11th*, 1841. I was invited by Dr. James Kissam to assist in examining the body of a female patient who had died of corroding ulcer of the uterus. The history of the case as I obtained it from

the doctor, and from a gentleman who had previously attended her was as follows:—Mrs. F., ætat. 50, having frequently had leucorrhœa, began to have fœtid discharges from the vagina, attended with pain in the uterine region; under proper treatment the symptoms were mitigated, and the patient lost sight of. From this time to the fall of 1840, the state of health gradually became worse and worse, the vaginal discharge more profuse and constant. Advice was had from several gentlemen, but I cannot find *that either of them made any vaginal examination!* The patient now, October, 1840, came under the care of Dr. Kissam who was first consulted in the alarm consequent upon a profuse hemorrhage from the vagina. This he learned was the third of these hemorrhages, the first having occurred about a year before.

The immediate difficulties being relieved, Dr. K. made a careful vaginal examination; the patient did not complain of much pain; the state of parts could not be satisfactorily made out; the os and cervix uteri were evidently gone, and there was no morbid deposit; the cavity of the pelvis seemed unusually empty, the finger moving about from side to side very freely. Corroding ulcer, far advanced, was diagnosticated, and nothing done except to palliate the sufferings, which were very great, (the pain in the pelvis being often agonising), by opiates, by fomentations, and by hip baths. Under this treatment she lived on for several months, the strength gradually failing, the body emaciating, the discharge of a horrible fœtor continuing unabated. During the winter she had two attacks of hemorrhage, which reduced her very much; still she felt well enough to see company on New Year's day, and got up to have her bed made so lately as the last of March. In the afternoon of April 10th, she had a slight hemorrhage (a few ounces), but it prostrated her very much, and about 10 P. M. she died.

Sectio Cadaveris.—The body was emaciated to the last degree; I never saw a more perfect specimen of leanness. On dividing the paries of the abdomen, which was very thin, not over a quarter of an inch thick, the cavity of the abdomen was fairly exposed, the small intestines and stomach were normal, the sigmoid flexure of the colon was unfolded, and adhered by one edge to the bladder and to the margin of the superior strait, thus forming a sort of diaphragm, by which the cavity of the abdomen was separated from that of the pelvis; this diaphragm formed a complete septum except that at its posterior part it was traversed by the rectum. Having satisfied ourselves of this we next tore away the anterior edge of the colon from the bladder (the adhesion between the two was not very strong) and exposed the cavity of the pelvis. It was nearly filled by a gray semi-fluid mass, of the most horrible fœtor. This was carefully removed by the sponge and then the cavity examined. Here a most extraordinary state of parts was discovered. The whole cavity of the pelvis was *empty*, the superior and posterior wall of the bladder was eaten away, all that remained of that viscus being a cup about two inches in diameter, from the centre of which the urethra passed out. Behind the bladder the superior extremity

of the vagina was found eaten off by ulceration; *not the slightest vestige of uterus, ovaria, fallopian tube, broad or round ligament, could be seen.* The walls of the pelvis were coated every where with lymph and condensed cellular substance, which formed thus a limit for the vast abscess by which the cavity of the pelvis was occupied. There was an ulcerated opening half an inch in diameter, in the anterior wall of the rectum, about four inches from the anus, and just below this point the gut was so much strictured as scarcely to admit a quill. If my description has been intelligible, the reader will perceive that the cavity of the pelvis, in this case, formed a sort of cloaca, into which the urethra, the vagina, and the rectum opened. It is not a little curious that life should have been sufficiently prolonged to allow of so great a destruction of parts. Yet this woman sat up a portion of every day till the tenth, before her death.

The other organs, except the brain, were carefully examined, to ascertain whether there had been, in any of them, any morbid deposit—cancerous—but nothing of the sort was found. The case illustrates very well the diagnostic mark between ulcerated cancer and corroding ulcer; deposit of morbid matter being in the former case made more rapidly than the ulcerative process can remove it, while in the latter this process goes on alone, no deposit taking place, but the original structures being gradually removed. In the great work of Cruveilhier, liv. 24, there are several cases given, which are strictly analogous to this; but Cruveilhier calls the disease gangrene of the uterus. This gangrene, he says, may be primitive or consecutive. On examining his cases they appear to be all gangrenous ulcerations rather than true gangrene. Those which he considers consecutive were cases of cancer in the progress of which, ulceration, with discharge of a horribly offensive detritus, occurred. To distinguish this from the ordinary cases of cancer in the ulcerative stage, Cruveilhier seems to rely mainly on "gangrenous fœtor *very distinct from the fœtor of cancer.*" This I confess seems to me rather a narrow basis on which to found a diagnosis. He distinguishes those cases which he calls primitive gangrene, by the gangrenous fetor, by the absence of all morbid deposit, by the absence also of fungous growths, and by the gangrenous aspect of the ulcerated surface. That these cases of primitive gangrene were not cancerous, no one can doubt,* and it appears nearly equally clear to me that they were of the same character as the one I have detailed, and of those to which Dr. John Clark gave the name Corroding Ulcer. Whether the disease should be called by the one or the other name, gangrene of the uterus or corroding ulcer, is of secondary importance, the main point being to establish the identity of the two affections.

* I find, however, that the two are confounded by Hemming, the translator of Boivin and Duges, who adds a note to the chapter on Cancerous Ulceration, to say, that the disease there spoken of, was probably the corroding ulcer of Clarke. That it was not, is evident from the facts that fungous growths are spoken of by the French authors as common, and cancerous deposit as occurring in some cases. Neither of these are ever seen in the true corroding ulcer.

ART. III.—*Observations on Congestive Fever.* By THOMAS BARBOUR, M. D., of Pulaski, Tennessee.

IN the brief investigation of the interesting subject of the present paper, it is not my intention to consider the accidental cases of congestive disease, dependent on sporadic causes; nor those congestive superventions which are incident to every form of fever, but to confine my observations to that peculiar modification of febrile disease which is characterised from its very incipiency, by strongly marked symptoms of deep internal congestion, and a great oppression of the powers of life; in other words, that affection which is denominated in the south, pure congestive fever. The frequency of its occurrence, and the fatality attending it in the southern portions of the United States, concur to render it worthy of the most serious consideration of the profession; and demand from every practitioner, who has had good opportunities for observation, the results of his experience, which may serve in some degree to lessen the fatality of this destructive malady, by contributing to the improvement of its treatment. Having had numerous opportunities during the last four years, of witnessing this disease, and in some instances, in its most malignant form, in what is called the Tennessee Valley, in North Alabama, I indulge the hope that a few observations, principally with the view of pointing out the best method of treatment, will not be altogether unacceptable to the profession, and especially to medical men residing in the south, whose painful duty it may often be to observe, and to treat it.

I will cursorily notice, 1st, the etiology—2d, the pathology—and 3d, the symptoms of genuine congestive fever; then detail the plan of treatment which I have found the most efficacious.

In regard to the *causes* of this form of fever, as indeed of all other forms of what is called essential fever, but little is certainly known. Its almost universal occurrence in localities which are favourable to the production of malaria; its co-existence with all the common varieties of miasmatic fever;—and all of its distinguishing phenomena clearly demonstrate the identity of cause, and that that cause must be some powerful and concentrated poison, generated by the decomposition of organic matter.

It requires but a superficial observation of the phenomena of this disease, to be convinced that this cause, whatever it may be, makes its primary impression upon the nervous system; and that all of its characteristic symptoms are the immediate sequences of diminished nervous sensibility. The suddenness of the attack, the numerous indications of nervous derangement, and the rapidly fatal tendency of the disease, conclusively show, that the brain and the whole nervous system, the main springs of life—are almost overwhelmed in the very first assault of the enemy.

The impression made upon the nervous system is proportionate to the intensity of the poison applied; and the effects on the constitution are vari-

ous according to the relative force of vital resistance; hence, whenever it prevails, there is every gradation of the disease from slight manifestations of congestion, to the most malignant cases, in which the vital forces are completely empowered. This leads me to the consideration of the *pathology* of congestive fever, which I will point out in a few words.

The whole nervous system being oppressed by a powerful morbific poison. as necessary consequences, all of the vital functions over which it presides, as respiration, circulation, secretion, &c., become greatly impaired; the capillary circulation throughout the entire system becomes much impeded; and there is a centripetal movement in the circulating fluid, in consequence of which the pulse becomes weak, and the general surface cold and contracted; whilst the internal organs become gorged with blood.

The phenomena dependent upon internal engorgements, are various according to the seat and extent of the congestion. When the brain is the chief seat of congestion, the countenance appears contracted, oppressed, and besotted; there is pain or giddiness, or a sense of heaviness in the head; and there is a strong tendency to coma and insensibility. When the lungs and heart are principally congested, there is great præcordial oppression; the respiration is short, hurried, and oppressed; and there is generally a peculiar livid appearance in the face; the pulse is irregular and oppressed; and there is general coldness of the surface. When the abdominal viscera are the chief seats of congestion, there is a sense of great heat and oppression in the region of the stomach, attended with great thirst, and a constant disposition to retching and vomiting; there is also indescribable restlessness; sometimes the bowels are torpid; but most generally they are very loose—thin, serous discharges passing off in enormous quantities, which contribute rapidly to prostration and death. Autopsic examination usually reveals the true source of all the foregoing symptoms. The various organs are found more or less gorged with blood; which was the cause of their oppression and embarrassment during life.

With this brief view of the pathology, I pass on to the consideration or the *symptoms* of congestive fever. The premonitory symptoms, which are, generally, of short duration, are those which commonly precede other forms of fever, such as languor, and lassitude, a sense of weariness, and general uneasiness, loss of appetite, and disturbance of the stomach and bowels. Next to these succeed chilly sensations—alternated by flashes of heat, soon after which the patient has a regular paroxysm, characterised by a protracted cold stage—the system, most generally, being unable to recover its natural temperature before the occurrence of the second paroxysm.

The type of this fever corresponds with the double tertian of the old authors, being subject to quotidian paroxysms, but on each alternate day, to an increased aggravation of the symptoms. Thus on the third and the fifth days, the paroxysms are usually very severe, and followed by a protracted cold stage, from which the system reacts very feebly. The anxiously

looked for hot stage is rarely or never fully developed, even in what might be called mild cases. But instead of it, the temperature of the whole surface is greatly diminished and irregular—the extremities being much colder than the trunk. The pulse becomes exceedingly weak and quick; the respiration is short, hurried, and difficult; the patient complains of a painful sense of heat, and weight in the epigastrium, accompanied with insatiable thirst; there is uncontrollable restlessness; the patient tosses himself from side to side, and often rises up, as if to relieve the oppression of the lungs; there is either pain, or giddiness, or sense of weight in the head; and the countenance looks contracted, pale, anxious, and often livid; the tongue is generally moist; and the bowels in a large majority of cases are loose, and the dejections serous.

The above sketch presents a tolerably correct delineation of the symptoms of ordinary congestive fever, as they present themselves at an early period of the disease.

They are, however, subject to considerable modification, according as the brain and spinal marrow, the lungs, or the abdominal viscera are the chief seats of congestion; the most prominent symptoms in each case being particularly referable to the chiefly engorged organs.

If the condition above detailed is not soon removed by the recuperative efforts which nature makes to throw off the oppressive load under which she is labouring, aided by proper remedial agents, there is a rapid tendency to total collapse. This usually occurs either on the third or the fifth days, when, as has been remarked, the paroxysms are unusually severe. This condition is marked by all the symptoms, which indicate profound congestion. The extremities, and, indeed, the whole surface, become as cold as ice; the whole body is bathed with cold clammy sweat; the skin loses its elasticity, resuming, very slowly, its natural situation, when pinched up; the pulse is very quick, and scarcely perceptible; the thirst is insatiable; and there is uncontrollable anxiety and restlessness; the respiration becomes shorter, more hurried, and oppressed; and there are strong marks of diminished sensibility; as a disposition to lethargy, and even to coma, with great muscular prostration. If unchecked, these symptoms increase with a rapid pace, and soon terminate in death.

But congestive fever does not always follow the regular course above described. Sometimes, instead of suffocated excitement, after the first or second regular paroxysms, there is full and violent reaction, and the stage of excitement continues for twenty-four, thirty-six, or forty-eight hours, with little or no remission, when the system, seeming to be exhausted by the violence of the excitement, rapidly sinks into collapse.

This modification generally occurs when there are internal inflammations, as indicated by pressure over the epigastrium, the right hypochondriac region, or over some portion of the bowels.

In other instances, the first regular paroxysm is succeeded by the strongest mark of deep congestion, and complete collapse of the powers of nature.

So far as my observation has extended, this last modification almost universally occurs either in aged persons of feeble or broken down constitutions; or in those who have debilitated themselves by the use of harsh purgatives, or by the use of a too common remedy among southern planters, the emeto-cathartic, *salts and tartar*, which most generally causes great gastric and intestinal irritation, which induces a rapid fluxionary movement in the circulating fluid towards the chylopoietic viscera, which causes inequality of the circulation, and rapidly prostrates, by the copious serous discharges which ensue.

We now come to the most important part of our subject—the *treatment* of the different modifications of congestive fever. What are the leading indications in the treatment of this disease, founded on the pathological views which have been taken of it? There is a perfect unanimity in the opinions of medical men, that the great objects at which we should aim in the use of therapeutic means, are—1st, to restore the lost balance of the circulation;—2d, to relieve the engorged organs; and 3d—to restore the suspended secretions.

How are we to attain these desirable objects? The discrepant views which have been entertained, and the great diversity of agents which have been applied to fulfil the plain indications of treatment, clearly show that, however well the pathology may have been understood, great uncertainty has existed in regard to the treatment. Under circumstances favourable to its adoption, reason as well as ample experience, points out the propriety of general, and topical bloodletting. This practice, I know, is strongly condemned by some; and others, who upon pathological grounds, approve it, adopt it with a trembling hand. Why? Because the patient may have a feeble, quick pulse, and a cold skin, and other marks of prostration. But if we reflect upon the important lesson taught by the pathology of this disease, we must be convinced that the above symptoms do not arise from actual debility, but only from engorgement of the internal organs, which, most generally, are not, at first, structurally diseased, but only oppressed by the undue quantity of blood forced into them. The cautious abstraction of blood under such circumstances, unquestionably promotes reaction, by diminishing the load under which the heart and other vital organs are labouring. General bloodletting is altogether inadmissible in some conditions;—for example, it would be highly detrimental in aged persons of feeble or broken down constitutions; in persons of very intemperate habits; also in the advanced periods of any cases,—because, in all of these, the powers of life are generally at a low ebb, and most probably, the loss of blood by venesection would preclude the possibility of reaction.

But suppose a practitioner is called, at an early period, to a patient of generally good constitution and health, and under the meridian of age, and finds him suffering with all the symptoms of suffocated excitement, already noticed, surely, if he had ever witnessed the good effects of bloodletting

under such circumstances, he would not hesitate to draw blood cautiously. Nor would he ever incur any risk if he follows this simple rule; open a good orifice, and keep the fingers carefully applied on the opposite pulse, and if the pulse becomes weaker, stop the operation instantly, and if necessary, administer some diffusible stimulant. If, however, the pulse rises, and becomes fuller and more regular, as it often does, continue the operation until the pulse becomes well developed. When this effect is produced by bloodletting, there generally ensues a rapid improvement in all the symptoms, in consequence of the reaction of the system.

Bloodletting is particularly indicated in those cases where high excitement continues for two or three days after the paroxysm, with little or no abatement. Under such circumstances, it is certainly one of the best means we possess to lower excitement, and cause a perfect remission, during which we can make use of such remedies as are calculated to prevent the recurrence of a severer paroxysm, which would, most probably, be followed by collapse.

When general bloodletting is considered inadvisable, free cupping should be substituted. Cups should be applied along the whole course of the spine, over the chest, over the epigastrium, over the right hypochondriac region, or over the bowels, according as the indications of internal congestion predominate in one or other of those situations. The revulsive influence exerted by this operation, often acts very beneficially. Having bled or cupped as circumstances indicated, it is important to attend to the condition of the alimentary canal. The stomach is, generally, very irritable, and the patient complains of great thirst, and heat in the epigastrium; to relieve which, a large sinapism should be applied over the stomach, and small portions of cold water, or iced lemonade, or small quantities of ice, should be given; these are exceedingly grateful; they lessen the burning heat and thirst; and often compose the stomach. If they fail, cups should be applied over the epigastrium, and if necessary a large blister should follow them. These combined means rarely fail to tranquillise the stomach. The bowels are sometimes torpid, when the evacuations are either clay-coloured, or of a muddy or tarry colour—conditions which indicate either a suspended, or a greatly vitiated secretion. Most frequently, however, the bowels are very loose, and the discharges serous, with a great quantity of small black particles in the bottom of the vessel containing them, resembling coffee grounds. This appearance is attributed by most southern practitioners to the oxydizement of the mercury which is so plentifully administered in the form of calomel. My own impression is that it is the result of morbid secretion from the liver and bowels. If the bowels are torpid, and the dejections are unnatural, the best combination I know of is, five grains of calomel, five grains of rhubarb, and one half grain of ipecacuanha, made into two or three pills, and given every four or six hours, so as gently to evacuate the intestines once or twice in the course of the day. Some prac-

titioners, in such cases, recommend pills of calomel, rhubarb, and aloes; but in a large majority of instances such a combination is too harsh, and calculated to excite great irritation in the mucous coat of the bowels. Others recommend enormous doses of calomel as 50 to 100 or even 200 grains, and repeat them often; and they assure us that they have done more good with it thus administered, than with all other remedies besides.

My own experience is opposed to the use of calomel in such large doses. I am convinced that small portions, say from five to ten grains, repeated every two, four, or six hours, according to circumstances, are better calculated to fulfil the indications for which it is administered. When given in very large doses, it often produces copious watery discharges; a consequence which might be very reasonably expected, when it is remembered that the liver and bowels are in an engorged condition, and of course not possessed of their natural susceptibility of impression; hence, I believe that such quantities of an agent like calomel become a great source of irritation.

It is extremely doubtful whether calomel, in any doses, is capable of producing its specific effect upon the liver, so long as it continues gorged with blood; and when reaction takes place, and this viscus becomes disburdened, small portions much more easily affect it, because they are much less apt to pass off by the bowels.

If the discharges are very thin, it is important to suppress them as soon as possible. For this purpose, I generally use the following combination: five grains of calomel, five grains of camphor, and from one half to one, or, if necessary, two grains of opium made into pills, and given every four or six hours, according to the copiousness and the frequency of the discharges. The above means, thus combined, are admirably calculated to restrain the bowels, to unlock the liver, and, at the same time, to determine to the surface. Having attended to the alimentary canal, the most important indication which demands our attention is to restore the lost balance of the circulation, by the adoption of every revulsive means in our power.

In the worst cases, the pulse is as small as a thread, sometimes imperceptible, and the whole surface is as cold as ice, attributable to a complete recession of the vital fluid from the extreme vessels, and to the engorgement, and consequent oppression of nature's calorificator, the lungs, and unless these conditions can be soon overcome by means calculated to equalise the circulation, nothing can effect any good.

What are the best means for accomplishing this paramount object? The views of authors, and practitioners in Europe and America are exceedingly discrepant in regard to this. We are informed by Armstrong, that the hot vapour bath, or the common hot bath, with bottles of hot water to the feet and hands, &c., together with hot ginger tea, pure dry brandy, and calomel and opium are incomparably superior to every other agent for the promotion of reaction.

With due deference to such distinguished authority, I would remark that

whilst I do not doubt the efficacy of the above treatment in the congestive diseases of the great metropolis of England, my experience convinces me that it is, in a large majority of cases, altogether inadequate to the removal of the genuine congestive fever which is incident to unhealthy localities in southern climates.

In the first cases of congestive fever which I ever saw, I confidently relied on the treatment of Armstrong, because I knew of no better practice, and because it seemed to be altogether consonant with reason to give internal stimulants and apply external heat. The conclusion to which my observations have led me is, that this treatment is adequate to the restoration of the lost balance of the circulation, only in those cases which are occasioned by common causes; or in the *mildest* cases of pure congestive fever. In all the worst cases of this disease which have come under my notice, the hot bath and most diffusible stimulants have done injury rather than good, the patients appearing, generally, more relaxed and oppressed after they had been used. The remedy which I estimate above all others in the treatment of congestive fever is the affusion of cold water. My own comparatively limited experience, and the ample experience of many intelligent practitioners in the South, sustain me in the declaration that the affusion of cold water upon the naked body, is capable of producing the most beneficial effects; and in a large majority of even the most malignant cases, of inducing complete and permanent reaction. I acknowledge that when I first used this potent and novel agent, I rather distrusted its propriety, because I could not very well understand how cold applied to a surface, already as cold as ice, could effect any good purpose. But no sooner had I tried it and witnessed its effects, than I became convinced of the erroneous view which I had taken of its *modus operandi*, and which had deterred me from adopting it sooner. So well am I assured of its invaluable efficacy as a powerful excitant to the nervous system, that I now feel no more hesitation in its adoption, than I do in the use of the lancet in inflammatory affections; for the principle upon which it operates, is just as obvious to my mind.

Who would hesitate to dash cold water on a patient who was overwhelmed by the effects of opium? Surely no practical medical man would, if he knew its efficacy. Why? Because it is known to be capable of arousing and sustaining the oppressed nervous system by the stimulant impression which it makes upon it. Why then should there be a doubt about its applicability to a disease which we believe to be dependent upon a poison which oppresses and paralyzes the whole nervous system? The analogy as regards the condition in the two cases is perfectly just; and the principle on which the remedy acts is identical. That this is the fact, its almost universal effects abundantly testify.

The modes of application which I have adopted, are the following:—Have a broad plank placed upon two chairs, at a convenient distance apart, and place two vessels of hot water on each side, corresponding with the feet

and hands; then strip the patient and lay him on his back, on the plank, with his extremities in the hot water, and having at hand twenty or thirty gallons of spring water, or what would be better, water made colder by ice or salt, pour the water from a pitcher, in a full and rapid stream over the chest and abdomen. The advantage of this mode is, that the cold is directly applied over the most common seat of congestion, whilst the circulation is invited to the extremities by the hot water.

The second mode which I adopt, particularly in cases where the brain and spinal marrow are the chief seats of congestion, is to place the patient upon a blanket on the floor, and cause him to turn upon his side, and dash cold water as forcibly as possible over the head, and down the spinal column. This method is often the most effectual, because its influence is more immediately felt by the great nervous centres. Having applied the water, the patient should be quickly wiped and placed in bed, and be covered with two or three blankets. I have sometimes had the patient surrounded with hot stones, or bottles filled with hot water, after being placed in bed; but I am now satisfied that it is improper to do so, on account of the relaxing influence of the heat, and the debilitating effects of the copious perspiration induced by it. Instead of heating the patient, I cause him, as soon as he has received the cold dash, and is placed in bed, to be extensively and forcibly rubbed, either with dry mustard, flour, or salt, or with spirits of turpentine.

Under the combined influence of these agencies, reaction if at all possible, soon ensues; the surface rapidly recovers its natural temperature; the pulse from being quick and thready, becomes fuller, softer, and more regular; the respiration becomes easy and regular; the countenance becomes fuller, and more animated; and from insatiable thirst, and uncontrollable restlessness, the patient often experiences so much relief, that it is not uncommon for him to fall into a quiet and refreshing sleep, from which he awakes greatly improved.

The effects of the cold dash are, frequently, permanent, and complete reaction takes place, followed by rapid convalescence. In many instances, however, the effects of the first effusion subside, and the patient relapses into his former condition of coldness, restlessness, and insensibility. In such cases, it is proper to repeat the affusion, until complete and permanent reaction takes place, which may be confidently anticipated in a large majority of even the worst cases, provided it is applied sufficiently early.

Unfortunately for the reputation of this invaluable remedy, it is deferred too long, and most generally, resorted to only as a dernier resource; in consequence of which, the system loses all susceptibility of its impression; or some vital organ or organs become irreparably injured, and hence its use proves abortive.

There is no just reason why its adoption should be delayed. If it is capable of producing such salutary effects in the latter periods of the disease

when the vital principle is almost extinguished; how much more triumphant would be the success attending its use at an earlier period, when the vital organs, most generally, are not seriously injured, but only burdened with an undue quantity of blood, and when the susceptibility of impression is but little impaired?

As auxiliaries to the cold affusion, I generally apply cups along the course of the spine, over the epigastrium, over the right hypochondriac region, or over the bowels, according to the indications: and at the same time have warm mustard plasters applied to the extremities, and over the different seats of congestion; or have the whole surface well rubbed with strong mustard flour. I have sometimes derived considerable benefit from the application of a narrow mustard plaster along the whole course of the spine.

When, however, there are strong marks of cerebral congestion, a blister to the back of the head, and over the cervical portion of the spine, is decidedly preferable. Diffusible stimulants seem to be indicated; and I usually indulge the patient with occasional portions of any of them which appear to agree best with the stomach. Brandy and almost all the common spirituous liquors, in most instances which have come under my observation, appear to increase the oppression and sickness of the stomach. Good porter is far preferable to all other internal stimulants, and patients are, generally, very fond of it.

If we succeed, by the above means, in producing complete reaction, what course of treatment should be afterwards pursued? If the reaction is moderate, which is most usually the case, all that will be necessary will be to administer mild aperient and alterant medicines in combination, in order t regulate the bowels, and restore the biliary and other secretions to a healthy condition; and at the same time remedies calculated to sustain the weakened powers of nature, and to prevent the recurrence of the paroxysm, to which there is always a great liability. The combination I use with the view to the fulfilment of the first indication is from three to five grains of blue mass, five grains of rhubarb, and a half grain to one grain of opium, every six or eight hours, until the secretions become of natural colour and consistence. To fulfil the second indication, I give from ten to twenty grains of quinine, combined with from five to ten grains of Dover's powder, every three or four hours. I generally confine the use of this combination to the forenoon, beginning with it at about four o'clock in the morning, and repeat it at eight and twelve; after which I substitute infusion of serpentaria, because there is commonly some tendency to excitement in the afternoon. For the same reason, if it is deemed necessary to administer aperient medicines, it should be given in the evening, as there is then much less liability to a depression of the system, from depletion in any form.

Sometimes, however, the reaction is violent, and unless it is moderated, the organs which have just been gorged with blood, and consequently weak-

ened and irritated, will rapidly become the seats of violent inflammation, which will be difficult of removal, on account of the inability of the system to bear depletion to any great extent. In such cases, it is necessary to apply cups over the various seats of congestion, administer calomel, and after it oil or infusion of senna with ginger, and repeatedly use either the cold or the tepid affusion. If these means fail, it may be proper to draw blood from the arm; but this should be done with great caution, as the power of resistance in these cases is generally so low, that not unfrequently high excitement is suddenly followed by symptoms of prostration. In cases where bloodletting seems to be demanded, the pulse should be very carefully watched, and upon the slightest manifestation of failure, the orifice should be closed; and, if necessary, a little wine, brandy, or porter should be given.

The above means are usually sufficient to reduce the excitement to a proper standard, when the alterant and aperient combination, together with quinine, can be administered, as above directed.

Suppose, however, that notwithstanding the diligent use of all the means which have been recommended for the purpose of arousing a patient from the collapse of congestive fever, he still continues for several days without any reaction, what should be done? I seriously apprehend that nothing can be effectual, as in such cases, generally, the injury done to the vital organs is irreparable. Still as we should never give up the ship until it sinks, and as sometimes patients recover contrary to all reasonable expectations of physicians and friends, it is our duty to continue, unremittingly, to apply every means which can possibly do good. Under such circumstances, I would chiefly rely upon the occasional use of the cold bath, large and numerous sinapisms, blisters, hot spirits of turpentine, calomel often repeated, large doses of quinine, and the free use of brandy or porter.

In conclusion, I will briefly notice the most appropriate regimen during the continuance of the disease, and in convalescence. It will be remembered that in congestive fever, the stomach and bowels are in an engorged and oppressed condition, and that of consequence, their important functions, digestion and chylification, are greatly impaired; hence it is very necessary to adapt the aliment to the weakened digestive organs; otherwise it is sure to become a source of increased irritation. Rice water, barley water, arrow root tea, well made gruel, or chicken water, are the best articles of diet, during the course of the disease, and also for several days after convalescence commences. After the strength of the digestive organs has somewhat improved, chicken broth, boiled milk, or milk and mush, would be altogether appropriate for a few days, after which the patient can return to his usual diet. For drink during convalescence, nothing is so good as old porter, as it is decidedly tonic, and as it generally serves to relieve the unpleasant sickness, and sense of sinking so often complained of by patients who have suffered from congestive fever.

ART. IV.—*Cases of Injury of the Head.* By A. B. SHIPMAN, M.D., President of the Cortland County, New York, Medical Society.

CASE I. *Fracture—Lesion of Brain—Death.*—Fox, ætat. 17, while riding a horse at a race in Homer, in this county, on the 20th of August, 1833, was thrown, and the left side of his head struck upon the hard road. He was taken up insensible, a surgeon sent for, Dr. Lewis Riggs of Homer, who bled him on the spot. There was a small wound in the scalp at the left side of the head, and an abrasion of the cuticle on the forehead, with extensive ecchymosis of the eyelids and around the eyes. He remained insensible for some hours; but in the evening he was rather restless with delirium.

I saw him on Friday evening, the 22d, the third day from the receipt of the injury, in consultation with Dr. John Lynds of Homer, who had bled him and given him a cathartic the day before. He had been restless most of the time with stupor; at this time he was rather comatose, but could be roused to take drinks and medicines; restlessness; occasionally stertorous breathing; involuntary stools and urine; pulse regular in strength and frequency; no paralysis or fever; skin cool and natural. The pupil of the left eye (the side injured) greatly dilated, yet slightly contracting on holding a lighted candle near; right eye pupil natural; eyelids closed and greatly distended by ecchymosis.

23*d*. I again visited him, found him apparently better. Cold applications had been kept to his head, and blisters to his legs and between his shoulders. His senses had returned so as to enable him to converse with his friends, who had been sent for from a distance, calmly and rationally; he recollects how his injury was received; complains of no pain; in the afternoon relapsed into a drowsy state, with incoherent talking.

24*th*. Symptoms more favourable; pretty rational; stood upon his feet; no fever or pain; slight delirium in the evening.

25*th*. Remains in nearly the same condition as yesterday.

26*th*. Was bled, when he became worse almost immediately; he sank into a comatose state; the surface became cold and the face sunken; the ecchymosis in great part disappeared from the eyelids; the breathing laborious. He continued gradually to sink, and expired at 5 P. M., on the 28th, just one week from the injury.

Autopsy 12 hours after death, in the presence of Drs. Boies, Lynds and Bradford. Very little blood was found in the scalp; the left temporal muscle was filled with a coagula of effused blood, and under the pericranium, near the seat of the wound, there was also suffused blood. On removing the skull cap, a fissure was discovered extending from the upper part of the frontal bone, on the left side, through the superciliary ridge and through the orbitar process, across the suture connecting the lesser wings of the sphenoid

bone, into the foramen lacerum of the orbit; another fissure extended across the orbitar process to the christi galli of the ethmoid bone, then downwards, terminating near the anterior clinoid process, in the foramen lacerum near the termination of the other fissure, leaving a triangular portion of bone entirely insulated and depressed about one-eighth of an inch. Corresponding to the perpendicular fissure, there was a laceration of the dura mater, two inches in length, and a wound of the brain of the same length and three-fourths of an inch in depth, in the anterior lobe of the left hemisphere, about an inch and a quarter from the falx, and parallel with it. On each side of the fracture the dura mater was separated from the bone with extravasation between it and the bone, to the amount, perhaps, of two ounces. There was also some extravasation in the middle fossa of the skull on the opposite side. The sockets of the eyes also were filled with extravasated blood. The wound in the brain was filled with coagula and disorganized brain broken down into a pulp. The laceration of the dura mater and lesion of the brain were produced by the fractured edge of the bone being driven inwards by the force of the fall, but springing back, by its elasticity, to near its natural state. There were no marks of inflammation to be discovered in any portion of the brain; the vessels of the pia mater slightly injected; no suppuration or coagulable lymph; the parts, on inspection, appeared like a wound of very recent occurrence.

The diagnosis in this case was not so perfectly clear as might have been supposed from the degree of injury discovered in the post mortem examination. The symptoms might have been the result of violent concussion, and when, on the fourth day, returning sense and consciousness took place and continued a portion of the time for three days, some hopes might have been reasonably indulged in that no fatal lesion had taken place. The extravasation most likely took place immediately after the injury, and it is rather surprising that so few symptoms of compression should have been present. The wound of the brain was enough, we should think, to have caused paralysis or some more disturbance of the functions of the optic nerve; but when he was rational, no such effect was discovered. The injury was of so grave a character as to prevent that degree of reaction necessary to the development of the inflammatory process. The last bleeding was unnecessary, and probably hastened the fatal termination of the case. No operation would have been of any service if the precise nature of the injury had been known.

Case II. *Fracture, with Depression—Recovery without an Operation.—October 15th*, 1833.—M. W., a young gentleman of the medical profession, was thrown from his horse during a violent shower of rain. He was but little stunned with the fall, remounted his horse and rode to this village, a distance of more than a mile. I saw him within a short time after the accident; found a wound on the left side of the forehead; the scalp was torn up in a triangular flap, extending to the cranium; the pericranium was also lacerated,

exposing the bone; a fracture was discovered, with depression to a small extent, as though made by coming in contact with a sharp stone; this was in the upper and left side of the frontal bone. He was able to sit up; while the wound was dressed, the hair shaved off, and the wound cleansed from the dirt and gravel, the flap laid down and retained with adhesive straps. There were no symptoms of concussion or compression, or any disturbance of the mental faculties; he rested well during the night, and in the morning, as his pulse was somewhat strong and full, he was bled, took a cathartic, and in three days rode four miles to his home, and recovered without any bad symptoms. The force which fractured the skull in this case was confined to a small point of the bone, and whatever injury there was, it was circumscribed; the depression was not sufficient to cause compression, and it is probable that there was not any effusion beneath the bone.

Case III. *Fracture, without Depression—Recovery without Operation.* —*September* 15*th*, 1836. George Martin, hostler, ætat. 21, was kicked by a horse upon the upper portion of the right side of the frontal bone; the scalp and pericranium was torn up from the bone the size of a crown piece, and also a piece of the external table of the bone the size of a shilling; a fracture of the bone also traversed the skull in a perpendicular direction and both above and below in the sound skin. He was at first insensible from the blow, but partially recovered his senses; was carried into the hotel and placed in bed. I saw him within an hour. He was drowsy and torpid, but could be roused to answer questions, quickly however relapsing into stupor; his extremities were cold; pulse slow; pupils dilated. Ordered bottles of hot water to his extremities, and a glass of warm brandy and water. In the evening, six hours from the time of the injury he was nearly in the same situation, except that he was rather warmer and the pulse somewhat more frequent. In the course of the night reaction took place with stertor and heat of the skin.

16*th*, 8 o'clock A. M. Bled him twenty ounces, which seemed to rouse him in some measure. Twelve o'clock, noon, as there was some stupor, with much reaction, he was bled again sixteen ounces; took a cathartic of jalap and calomel, which operated well by nine in the evening. He then became perfectly sensible, and the heat of skin and activity of the pulse subsided. The scalp which was torn had been placed back in its natural position, and the loose piece of bone removed, and the wound was now dressed with adhesive straps, with light dressings to the head; cold applications were also made use of, with sinapisms of mustard to the feet and arms.

17*th*. Got out of bed, dressed himself and walked down stairs. From this time he went on doing well, and resumed his labor without any unpleasant symptoms; the wound healed in a few days, and he never had any farther inconvenience while he remained under my observation for six months afterwards.

This was a strongly marked case of concussion, and from the length of time which it remained after reaction came on, must have led to the conclusion that extravasation had also taken place, demanding the operation of trephining. The promptly salutary effect of venesection was striking; had the trephine been resorted to the next morning after the hurt, and there were some symptoms indicating its employment, no cause of compression would have been discovered, and the danger would have been increased. The injury was probably done with the cork, and struck the bone in a glancing manner; which chipped off a piece of the outer table of the bone and caused the fracture. The force of the blow was confined to a small surface, or the result would probably have been more serious.

Case IV. *Fracture, without Depression—Recovery without Operation.* —*November 28th*, 1836. Mrs. Stafford, of Virgil, ætat. 50, was thrown from a wagon upon the frozen ground. She was taken up insensible, and carried home, the distance of a mile. I saw her in the evening four hours after the accident. She had partially regained her senses, and complained of violent pain in her head and jaws. Her friends stated that she was very cold when they first got home, and they had but partially succeeded in getting her warm when I arrived. The eyes were both closed by the ecchymosis, and on examining the head a small wound was found in the scalp on the left side of the frontal bone, which would admit the point of the finger; at the bottom of this wound a fracture was distinctly felt, which separated so as readily to admit the finger-nail; the scalp was much bruised, and infiltrated with blood over the left side of the head; pupils much dilated; pulse slow and feeble; complains of difficulty of swallowing; she can be easily roused, and answers questions rationally. Ordered her warm sling, with bottles of hot water to the extremities. In about two hours she became warm, with a stronger pulse. Venesection to eight ounces, when she fainted; gave a cathartic of calomel and jalap; cold applications to the head. During the night she was restless with slight delirium.

29th. Cathartic operated well; is stupid most of the time, but answers questions rationally when roused; no fever; complains of severe headache, and is very restless a portion of the time; starts frequently in her sleep; moans and grinds her teeth; face and scalp much swollen, and dark colored; pulse slow and full; skin and extremities warm; venesection, twelve ounces, after which she became faint.

30th. Considerable febrile action; had chills in the morning; pulse quick; skin hot; restlessness, and delirium; complains of no pain, but starts at noises, and moans; pupils of the eyes much contracted. Venesection twelve ounces; calomel to be followed by senna and salts; blister to each arm; ordered the head to be kept elevated, with cold iced water to be applied.

December 2d. Febrile action less than on the 30th, but still considerable; pulse more full and less frequent; bowels have kept acting for the last

thirty hours; is rational, but her friends say she was delirious most of the night; complains of pain in the head, neck, and jaws; pupils still contracted. Blister to the back of the neck and calves of the legs; cold applications to the head continued.

4th. Found she had been feverish and delirious through the night with starting and picking at the bed-clothes; but is more calm in the day time; blisters drew well; less fever; pulse more natural; swelling of the face and eyes subsiding; pupils more dilated; but not more so than would be natural; has had strangury in a slight degree. Ordered the blisters to be dressed with epispastic ointment and lard. Continue the cold applications, and the general antiphlogistic regimen.

6th. Symptoms improved; less fever; no delirium since the 4th; some pain in the head; begins to call for more substantial food; has had strangury most of the time since the 4th, which she complains of more than any thing else; blisters discharge freely. From this time she gradually improved without any alarming symptoms, and without any other treatment than a mild antiphlogistic course; the blisters were kept running for ten days longer; a low diet with an occasional laxative to obviate costiveness was all she required.

She has enjoyed her usual health since that time, with the exception of occasional attacks of headache—for which it has been necessary to resort to venesection and active cathartics. The dilated pupils at first, and the stupor and general torpor of the system, might have led to the fear that extravasation had taken place; and the early development of fever and inflammation which followed was of an alarming character; but the happy termination of the case renders it probable that no effusion of blood, at least of any consequence took place; but cerebral inflammation was unquestionably present to a certain degree. The strangury I hailed as a favorable omen, as I always do in cases of cerebral disease, having frequently seen most striking benefits immediately follow its appearance.

Case V. *Fracture—Trephining.—Death.*—David Robinson, of Virgil, in this county, ætat. 73, while in the woods felling timber, February 25th, 1835, received a blow from the fall of a tree upon the left side of the head. When picked up he was totally insensible; nor did he exhibit any signs of returning sense until he had been conveyed to his house, which occupied perhaps half an hour. Dr. Bronson was called, and on his arrival opened a vein, but obtained little blood. Soon after the patient regained his senses, was able to converse three quarters of an hour, when he relapsed into insensibility. I saw him 11 A. M. four hours after the accident; he was then comatose; could not be roused; breathing stertorous; pupils dilated and insensible to light; writhing of the body from side to side; slow feeble pulse; cold extremities; oozing of blood from mouth, ears, and nostrils. He had swallowed some warm sling before I arrived; on examining the head the scalp

was found detached from the left parietal protuberance, and the bone completely denuded to the size of the palm of the hand; on cleaning the wound with a sponge and warm water, and closely inspecting the bone, a small capillary fissure was found running across the bone in a perpendicular direction, and a little posterior to the middle of the bone. The ends of hairs which had been caught in the fissure, made it evident that the bones had been separated by the force which produced the fissure; there was a slight oozing of blood from this, but it could not be opened with the point of a knife. From the symptoms it was evident that extravasation had taken place, and that the operation of trephining was indicated, but from the size of the body which produced the injury, and the force with which it struck —the age of the patient, the probability that the fracture extended into the base of the cranium, and the injury, consequently, most extensive, all led me to give an unfavorable prognosis.

It was finally decided to use the trephine which was applied to the upper point of the fracture and a piece of bone removed, when a coagula of blood was found beneath; as the opening was so small it was applied three times, and a large quantity of coagula removed. The dura mater was found widely separated and all the space filled with coagulated blood. I removed as much as possible, but it was found to extend down as low as the petrous portion of the temporal bone; and how much farther, I did not think it expedient to explore. After removing the coagula, the brain was observed to be collapsed; it did not fill the cranium by more than an inch upon the upper surface of the dura mater. The pulsations of the brain were very feeble and slow; the hemorrhage was profuse, probably from the rupture of the meningeal artery; and the cavity soon filled with blood of an arterial colour; the bone was very thick, nearly one-fourth of an inch. After the operation, the patient appeared more sensible, opened his eyes when spoken to, and answered some questions. He was placed in bed; bottles of hot water were applied to his extremities; a dose of croton oil was administered. The scalp was laid down over the opening, and loose dressings applied; the hemorrhage continued through the night pretty profuse; he never became perfectly conscious, but remained insensible most of the time until he died which took place the next day towards evening. As it was some distance from my residence, I was not able to make an autopsic examination. I think the hemorrhage in this case would have proved fatal independent of the extravasation; by appropriate dressing the blood could have been confined in the cavity of the cranium, and there suffered to form coagula, when compression would have been the result, either of which would have been fatal. The stages of concussion and compression were distinctly marked in this case: the first went off within three quarters of an hour, and was succeeded by an interval of consciousness, which lasted three quarters of an hour, then the extravasation took place as soon as sufficient reaction was present to throw out blood from the ruptured vessels.

Case VI. *Compound Fracture with Depression—Operation.—Recovery.*—On the 5th of December, 1837, I was requested to visit George Ochs, of Virgil, in this county. The messenger informed me that in a quarrel with his brother the day before, he had been struck a blow on his head, but for certain reasons best known to his friends, the accident had been kept secret from the neighbours up to that time. On arriving there at 3 P. M., twenty-five hours after the injury, I found the patient a strong, athletic man, ætat. 29, in bed, with a handkerchief over his head. He was labouring under headache, confusion of ideas, restlessness, writhing of the body, and scowling of the countenance; he was able to converse a little, but has no distinct recollection of being injured. On questioning the family, it was ascertained that the blow was given with a heavy mallet. The first blow was on the forehead which knocked him down, when another was given on the side of the head which rendered him insensible for a few minutes, when he recovered so as to be able to walk from the barn to the house with some assistance; he had been restless during the night; had slept but little, and was delirious a portion of the time. On examining the head, two wounds were found, one on the forehead which penetrated to the bone, and one on the left side, over the superior and posterior angle of the parietal bone. This wound was two inches long, and was widely open, and on passing the finger into the bottom of it a fracture with great depression was discovered. After shaving the scalp, the wound was enlarged to ascertain the extent and situation of the fracture. I found the depression corresponding with the sharp corner of the mallet, depressing the bone to the depth of three-fourths of an inch at least. It being decided best to raise the depressed portions of bone, with the assistance of my brother, Dr. J. A. Shipman, the crown of a small trephine was applied, and a portion of bone removed from the edge of the depression; then with the help of the elevator and forceps, ten pieces of bone were removed from their wedging position, and one sharp spicula from the inner table of the skull was driven through the dura mater into the substance of the brain to the depth of half an inch; this was also carefully removed with the forceps. There was much hemorrhage from an artery within the cranium to the extent of at least three pints. The patient made no complaint during the operation, except when the incision was made in the scalp, when he struggled and cried out. The wound was next sponged, and the flaps of the scalp laid down and dressed with adhesive plaster, a night cap put on, the head elevated, and a cathartic of calomel and jalap administered with directions to apply cold to the head if heat followed.

6th. Found that he had rested but little through the night; complained of pain in the head and frequent startings; pulse regular and full; considerable heat of skin; intellect clear; bowels not yet moved; gave ol. ricini; ordered cold to the head; room darkened, and head elevated.

7th. Cathartic operated freely last night; fever, headache, thirst, and foul

tongue; pulse strong and full. Bled him twenty ounces, and ordered antimonials with cream of tartar; low diet of gruel; blister to nape of the neck; sinapisms to feet and ankles; cold applications of iced water and spirits to head.

8*th.* Better; headache less; fever gone; tongue clean; wound suppurating profusely. Directed cathartic pills; continue the cold applications and antimonials.

10*th.* Still improving; wound suppurating copiously; still kept him on low diet; is very clamorous for food; wants meat. From this time he improved daily; and in four weeks from the time of the injury, he rode eight miles to visit me. The wound was nearly healed; he had nearly recovered his flesh and strength, and his health was good as before the injury. He has continued to enjoy his usual robust health ever since.

From the extent of the depression and the actual presence of a foreign body in the substance of the brain, compression in this case might have been expected to a much greater degree than was actually present. There was no stertor; no coma; no paralysis; the patient was able to converse most of the time before the operation. To the mildness of the symptoms from the time of the injury may be attributed the neglect of the friends in calling medical aid sooner, hoping that no public exposure of a disgraceful family quarrel would be necessary.

The use of the trephine here might fall under the ban of censure, perhaps, from that class of surgeons who are great sticklers for restricting its use to such cases only as present strongly marked symptoms of compression, without regard to the strict situation of the parts injured; severe inflammation of the brain and its coverings in all probability would have supervened, and the fragment of bone in the substance of the brain entirely detached from its connections, acting as a foreign body, would have produced great irritation, if not suppuration or ramollissement, ending in certain death. Inflammation to a certain extent, I think, came on, but it was local, and confined to a small extent of surface, and promptly subdued by the early measures adopted to arrest its progress.

Cortlandville, *February* 10, 1841.

ART. V.—*Cases of Cleft Palate.* By THOMAS D. MÜTTER, M. D., Professor of the Institutes of Surgery in Jefferson Medical College.

CASE I. In the spring of 1840, I was requested to attend Mr. Nathaniel L. Dickey, of Philadelphia, who was desirous of having an operation performed for a congenital division of the velum palati and posterior third of the palatine processes of the palate bones. The appearance presented by the parts involved in the deformity is shown in the annexed cut. (Fig 1.)

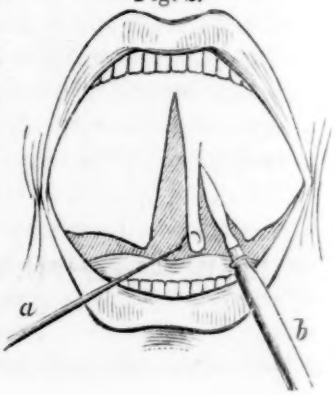
Fig. 1.

The age of the patient, 25 years, his excellent general health, the favorable season of the year, his intelligence, and, above all his anxiety to be relieved of the distressing accompaniments of the defect, determined me to perform the operation of velosynthesis or staphyloraphy at once. He was accordingly placed upon a preparatory treatment, (that is, so far as accustoming the parts by frequent touching to the presence of foreign bodies,) and after this end was accomplished, which required some days, a mild purgative was administered, and the next morning the operation was performed, in the presence, and with the assistance of Drs. J. Randolph, Norris, and Anderson, and several of my private pupils. The patient was placed in a chair of the ordinary height, and his head firmly supported against the chest of an assistant. The upper portion of the trunk was also enveloped in a sheet by which his arms were secured, and his dress protected from the hemorrhage.

Placing myself in front, a little to one side of the patient, so as to offer as little obstruction to the entrance of light into the mouth as possible, and the head being thrown back to favor the same object, he was requested to open his mouth and keep it in this position as long as he was able.

The first step in the operation was then commenced by Dr. Randolph, (who stood on my left), inserting a sharp hook (see Fig. 2, *a*,) into the most dependent angle of the left margin of the cleft, by means of which, with a slight tractive effort, he was enabled to make the whole line of margin tense. I then inserted the point of a *thin double-edged knife*, (see Fig. 2, *b*,) (the blade of which was one inch, and the handle six inches in length,) in the most dependent part of the margin, about a line from its free edge, and cut rapidly from *below*, *upwards*, inclining the knife so as to reach the apex of the cleft.

Fig. 2.



When the apex was reached, the knife was changed from the right hand to the left, and Dr. Randolph passing the hand which held the hook, across and a little above the face of the patient, made pretty firm traction upon the slip of mucous membrane previously separated by the first cut, and which still remained transfixed by the hook; by this means the right margin was made tense. I then completed the denudation by cutting rapidly from above, downwards. The denudation of the margins, occupied about a minute and the patient was then allowed to rest. The hemorrhage was slight and easily controlled by gargling with cold water, and after the lapse of a few minutes, the second step of the operation was commenced, and it was in this the most difficult of the three, that we found the vast superiority of a simple contrivance over all the complicated "*portes*" with which I came prepared. Great convenience was also derived at this period of the operation from having small pieces of fine sponge firmly tied upon long probes, with which the fauces were readily reached, and the clotted blood mopped away.

The head being placed and firmly supported as before, and the mouth held open by the volition only of the patient, I passed a small curved needle, armed with a well waxed double silk ligature, and firmly held in the grasp of Physick's forceps, through the most dependent part of the left margin of the cleft, carrying the needle from before backwards, and inclining my hand to the left of the mouth, so as to throw the point of the needle, after it had transfixed the tissues, into the middle of the cleft, (see Fig. 3, *a.*) As soon as it was visible, Dr. Randolph seized it with a pair of long forceps, (see Fig. 3, *b*,) and the clamp of the porte being at the same time relaxed, by which the grasp upon the needle was kept up, the latter was loosened, and at once withdrawn from the mouth. The same needle was immediately replaced in the porte, and the latter being held in the right hand, instead of the left, I introduced the needle on the right margin of the fissure, at a point as nearly opposite as possible the little wound in the left, passing it from behind, forward, (see Fig. 4, *a.*) As soon as its point was visible, it was seized and drawn through, and thus the first ligature was passed. The patient was then allowed to rest for a few minutes, and then the second

Fig. 3.

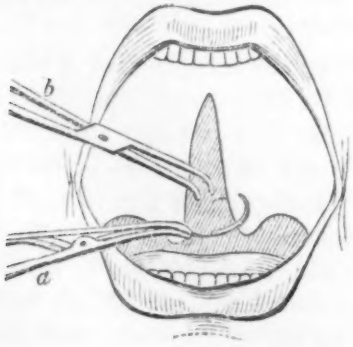
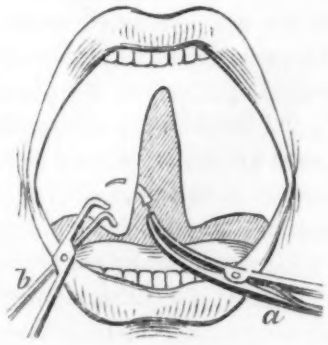
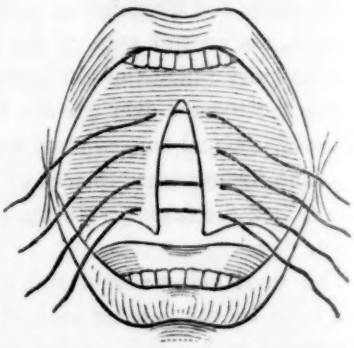


Fig. 4.



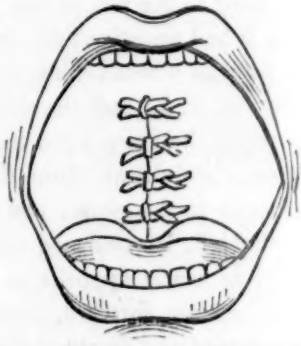
ligature was passed in the same manner; a third and a fourth were also required, and between the introduction of each, there was a respite of a few minutes allowed, during which the patient gargled with cold water, took a little wine and water, and had the blood mopped away. The whole were passed in about fifteen minutes, and as the needles were detached from each, their extremities were carried out at each corner of the mouth, and held separate by assistants.

Fig. 5.



The needles were all introduced from two to three lines from the margins. (See Fig. 5.) The third and last step was then undertaken, and we commenced it by tying the ligature first introduced, or that nearest the uvula. The first knot was easily made by crossing the ends of the ligature, wrapping them around the ends of the forefingers of each hand, and then passing the fingers as far back as possible. The edges came together beautifully, and with but little strain, by slowly carrying the fingers outward, and then the second knot was made. While the ends were crossing for this knot, Dr. Randolph grasped the first with a pair of forceps, and held it until the second was completed. Lastly, the ends of the ligatures were cut off close, and the patient allowed to rest for a few minutes. (See Fig. 6.) The others were knotted in the same manner, and in thirty-five minutes from the commencement of the operation, the patient was in bed.

Fig. 6.

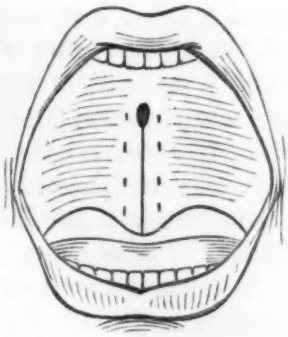


It will be seen from this report, that the operation of staphyloraphy, under ordinary circumstances, requires for its performance merely a knife, a hook, a pair of long forceps, a simple porte and needles, with waxed ligatures, scissors, sponges on handles, wine and water, cold water, towels, and two or three assistants. Other aids are occasionally employed, some of which will be referred to directly.

The subsequent treatment was such as is usually recommended in similar cases. For example, the patient was ordered not to speak, cough, sneeze, &c., and to take no nourishment except a little whey or barley water, a few drops at a time. On the fourth morning, it was found that one of the ligatures had given way, and that there was some disposition to slough. This was arrested by touching the part with solutions of argent. nit., grs. ij; aq. font. ℥j; of chloridi calcis, ℥j; aq. font. ℥iv; and of kreosote, gtt. vi; aq. font. ℥j. The other ligatures were taken away on the 5th, 6th, and 7th days, and in three weeks time, the cure was complete, with the exception of a small open-

ing at the upper part of the wound, caused by the separation of the ligature, but this opening, from the use of argent. nit., and the efforts of nature, is now not larger than the head of a pin.

Fig. 7.



Remarks.—The operation of staphyloraphy, uranoraphy, velosynthesis, kyonoraphy, uraniskoraphy, (for all these terms have been applied to the operation in question,) has been so frequently performed in Europe, and this country, (with varying success, it is true,) that the report of another successful case will be received by the profession as a matter of not much interest. When we recollect, however, that the operation is considered by all, as one of the most delicate in surgery, rarely succeeding perfectly, and occasionally causing the death of the patient, every thing calculated to simplify its details or ensure success should be considered of importance and arrest the attention of the operative surgeon. Nothing proves more conclusively the delicacy and difficulty of the operation than the immense variety of instruments invented for its performance. Ever since the period when the dentist Le Monnier first essayed to close "a congenital deficiency of the palate from the veil to the incisors," surgeons have been occupied in devising methods by which the operation might be performed with ease to the surgeon and with comparative ease to the patient, and yet it must be confessed that up to the present moment no one plan of operating can be said to accomplish these ends much better than another; and obviously because nearly every one requires for its performance instruments exceedingly complicated and often but illy adapted to the purpose for which they were invented. We will not waste time in enumerating, much less in describing the various instruments, and refer all who wish information upon the subject to the works of Velpeau and Froriep and the American Journal of the Medical Sciences, in which nearly all of importance are described or figured. It appears to me that the first thing to be done in our attempts to simplify the operation is to show by positive results that it may be performed with more rapidity and a greater prospect of success by instruments such as I have described, which are always at haud, or even by others more simple, than with the assistance of all the special and complicated ones that have ever been invented. As a case in point I may remark that Mr. D—— was but thirty-five minutes in the operating chair, and at least one half of this time he was resting, which proves that all the steps of the operation may be completed in from fifteen to twenty minutes. Now I have seen the best operators from one hour and a half to two hours and a half in effecting the same thing, and the delay was chiefly to be attributed to the instruments employed. All the clamps to seize and hold the edges of the fissure, the crooked scissors to pare away the edges, the complicated "portes" for the needles, and "serre

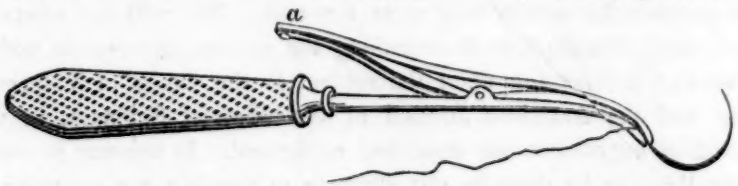
nœuds" for tightening the knots of the ligatures, corks to hold open the mouth, &c., &c., may, in most cases at least, be dispensed with, and not only this, but dispensed with to advantage.

Dr. N. R. Smith of Baltimore has performed this operation with a long lance-shaped needle, furnished with a notch for the reception of the ligature, a common bistoury, and a pair of forceps. The only objections to the needle in question are first, its being mounted on a straight handle, which renders it more difficult to introduce its point at the proper places; and secondly, the difficulty of disengaging the thread, which may be drawn back along with the needle in the attempts of the surgeon to disengage the latter from the margin of the palate. Notwithstanding these objections, however, it served an excellent purpose in the hands of the skilful surgeon by whom it was invented.

In using the forceps and needle of Dr. Physick I would suggest an alteration in the shape of the needle generally employed, which is not sufficiently curved for the operation of staphyloraphy, and presenting sharp edges is apt to turn in the forceps used to disengage it from the pair in which it is held.

The needle I now use is more curved, half an inch in length, and mounted on a cylindrical neck, a portion of which is held in the grasp of the porte, and the other part made rough is intended to be grasped by the forceps of the assistant. The cutting edge of the needle being wider than the diameter of its neck, will make an opening large enough for the easy transmission of the ligature.

The forceps too may be improved by causing them to close with a spring instead of a catch, such as they are usually furnished with. The "porte" of Schwerdt, of which the accompanying cut conveys a very good idea, and



which is figured in the large work of Froriep, answers a better purpose than Physick's forceps, (to which it bears a strong resemblance in principle at least,) in consequence of the facility with which the needle may be disengaged. By simply depressing the branch *a*, the blades open, and the needle falls out. The spring should be strong so that some force will be required to depress it. If too weak, the needle is held so loosely, that it will be almost impossible to make it pass promptly through the yielding edges of the velum.* The forceps to be used by the assistants, should be made

* When the porte of Schwerdt is not at hand, Physick's forceps, or the porte of Roux, or better still, the porte of Professor Gibson may be employed. The latter instrument is very simple, and well calculated for the operation in question. If I am not mistaken, Dr. Wells, of Columbia, S. C., a most excellent surgeon, was the first to employ Physick's

with a curve, and have their blades narrow, so that the needle may be grasped by its neck with facility.

Dieffenbach, who certainly deserves more credit than any other surgeon for his success in this operation, not even excepting Græffe and Roux, its accredited originators, prefers lead to silk ligatures, and assigns some very plausible reasons for the preference, but the difficulty of obtaining good ones, the irritation which their sharp extremities keep up upon the tongue, thus exciting cough, and the success which has attended the use of the silk, all lead me to prefer the latter. Most surgeons, and all who know much about the operation in question, have laid down a series of rules, by which we are to be governed in its performance. As reports of rare and successful cases, are intended more for the benefit and instruction of the very young, than for the information of the older surgeons, we will conclude this section with a résumé of the rules referred to.

First, The operation should be divided into three stages—

1. The denudation of the edges of the fissure.
2. The introduction of the ligatures.
3. The approximation of the edges, and tying the ligatures.

With reference to the first of these stages, I may remark, that some prefer introducing the ligatures before the incisions are made, as the blood prevents, to a certain degree, our ascertaining precisely the spot at which the needle enters, but in all the cases which I have seen, the slight hemorrhage which follows the section of the edges, is readily checked by causing the patient to gargle with a little cold water. Mr. Alcock attributes the partial failure in one of his cases, to the denudation of the edges before the passage of the ligatures, in consequence of which some moments elapsed between the denudation and approximation of the margins of the fissure. This short interval could not, however, exert any influence upon the tendency to re-unite, which all denuded tissues possess, when they are closely approximated. Many examples of union by the first intention, even when several minutes have elapsed before the adjustment of the separated tissues could be accomplished, might be cited, were it necessary to prove the assertion just made.

When the ligatures are introduced before the edges are denuded, there is always danger of cutting them while this is being done, and should this occur, the operation will of course be rendered more tedious, and necessarily more painful.

Again, when the edges are previously denuded, the sutures may be inserted more readily at the proper distances from the margins, and thus the liability to "cut out" be much diminished.

forceps in an operation upon the palate. In his case the opening was made by a reed being thrust forcibly through the roof of the mouth. The edges of the wound were brought together immediately after the reception of the injury, and reunion by the first intention readily took place.

In freshening the edges, we should always commence at the most dependent point. By making the section from below upwards, the blood will not obscure the parts, and we are thus enabled to see the tissue through which the knife has to pass, in its natural state.

In the introduction of the sutures, we must always, for obvious reasons, commence at the inferior portion of the wound, and be very careful to cause the points of entrance on one side, and exit on the other, to correspond as nearly as possible. Attention to this will prevent a puckering of the wound, and, as a consequence, its irregular union. All the sutures must be passed before we attempt to close the fissure; and in tying them, it is unnecessary to use any instrument for tightening the knots; the surgeon's fingers being all that is required. After the first knot is made, the surgeon passes his forefingers out towards the cheeks, and this tightens the ligature previously wrapped around each; the assistant then may seize the knot in a pair of common strait forceps, and hold it firmly until the second be tied. Both ends of the ligature are then cut off close, so as to prevent their irritating the fauces, and causing cough. Caution must be observed in this part of the operation, not to tie them too tightly, lest they produce ulceration, or "cut out."

Age.—Surgeons, with but few exceptions, have come to the conclusion, that the operation should never be attempted until the individual is old enough to appreciate its difficulties and dangers, as well as the benefits likely to ensue from it when success attends our efforts. It is hardly safe to undertake it before the sixteenth or eighteenth year.

Health.—The state of the general health should always be taken into account before the operation is decided upon. If the patient be feverish or too much debilitated, troubled with a cough or sore throat, or enlarged tonsils, or suffering from derangement of any of the important chylopoietic viscera, nothing should be attempted until these difficulties are removed. It is supposed by some that fluor albus, chronic ulcers, and strumous inflammations, from their debilitating influence by which the adhesive process is materially interfered with, particularly contraindicate the performance of an operation the success of which so essentially depends upon the speedy union of the surfaces in apposition.

Season.—Although the operation may be performed at any season of the year, yet, when we have it in our power to select the period, we should always decide upon that least liable to atmospheric vicissitudes. *Mid-winter* or *late spring* probably answer best. When the weather is very warm the patient bears confinement badly, and there is of course more risk of inflammation. In early spring or autumn the changes are so rapid and occasionally so severe as to cause colds and cough, the occurrence of which in the patient would effectually prevent the success of the operation.

Preparation of the Patient.—Some surgeons lay much stress upon the preparation by medicine, diet, &c., of the patient, but unless there exist some

positive indication for the employment of such measures, they are for the most part useless. If he be in good health, the administration of a purge the day before the operation is to be performed will be all that is required. Much benefit, however, will result from frequent introduction into the fauces and between the edges of the cleft—the instrument to be used, or the finger of the surgeon or of the patient himself, by which the parts become, as it were, *familiarised* to the presence of foreign bodies. Unless this be attended to, much difficulty will be experienced during the operation from the efforts of the patient at retching or even vomiting occasioned by the irritation of the fauces. When the parts have been daily accustomed to some similar impressions, they soon become so insensible as to bear being touched without much inconvenience.

Difficulties.—The difficulties accompanying the performance of this operation have been, as I have already hinted, vastly magnified. But under the most favorable circumstances and with the most simple instruments, it is one not to be entered upon lightly, as presenting *no difficulty*, and requiring but little skill for its successful performance. Not the least annoying circumstance connected with its performance is the constant disposition on the part of the patient to *close his mouth.* To obviate this, some surgeons employ bits of *wood* or *cork*, grooved above and below, so as to admit the upper and lower teeth and hold them steadily. These are placed between the last molars, and when the patient is restive serve a very good purpose; but it seems to me, like most of the "apparatus major" with which the operation is burthened, they in most cases at least may be dispensed with, and as they occupy a considerable space where room is much wanted, it will be well whenever the patient is trustworthy, to discard them entirely.

Motion of the Tongue.—Another difficulty is the motion of the tongue. As it is impossible to perform the different steps of the operation unless the cleft is readily reached, and as the constant motion of the tongue, uncontrollable in some cases, by any voluntary effort of the patient, effectually prevents this, surgeons have contrived a variety of instruments for keeping it out of the way. An oval plate mounted on a handle, so curved as to avoid pressure upon the teeth, has been used by Professor Gibson, and serves a very good purpose when such a thing is required. But when the patient has been accustomed by repeated trials to keep the tongue quiet while the mouth is held open this difficulty may be considerably diminished. In the three operations upon the palate now reported, it was unnecessary to use any thing to fix the tongue, the patients having been previously prepared for the operations by the efforts already referred to.

Breaking of Needles.—When the needles employed are badly tempered it may happen that the pressure of the forceps will cause them to snap. This happened to a distinguished surgeon who recently attempted the operation upon a very unruly patient. The needles in consequence of the fracture

were swallowed and some difficulty occurred in their removal from the œsophagus, although this was ultimately accomplished.

Hemorrhage.—Some have expressed much dread of the hemorrhage occasioned by the freshening of the edges of the cleft, and many dwell upon the annoyance experienced during the introduction of the ligatures, from the blood covering the parts and thus preventing to a certain degree the proper location of the needles. So far as I have been able to judge from my own cases, and from those of some of my friends, this difficulty is one of minor importance and the oozing of the blood may be readily checked by cold and astringent gargles.

Difficulties after the Operation.—In order that reunion by the first intention may be accomplished it is absolutely necessary that the edges of the wound be kept in a state of rest. This can only be effected by cautioning the patient against speaking, coughing, sneezing, clearing the throat and swallowing too frequently, but notwithstanding every precaution it sometimes happens that our efforts are frustrated by wilfulness on the part of the individual, or by accident.

For example, in the case of Mr. D——, who in every way was a most excellent patient, talking during sleep caused the detachment of one of the ligatures on the second night after the operation was performed. From the irritation of the fauces, patients are very apt to "clear the throat," and by this effort the ligatures may be detached, and the same cause may occasion uncontrollable cough. In either case injections of laudanum repeated until the system is fully under the influence of the anodyne, answer a better purpose than any other remedy.

Thirst.—Thirst is a very troublesome circumstance, against the indulgence of which all the philosophy of the patient must be brought to bear. Great relief, however, will be experienced from wetting the roof of the mouth with some demulcent liquid. A small piece of sponge attached to a quill or stick will be found useful for the application of the liquid employed. The patient on no account should be allowed to swallow a large mouthful of water or any thing else; a teaspoonful of water may be allowed occasionally to trickle down the throat.

Hunger.—Some patients are very restive under the rigid abstinence from food to which for some days they must be subjected. The best article of nourishment is thin calf's-foot jelly, or what is known as "cold custard" or "slip." Either of these articles may be given after the second day, but it is best to prohibit any thing until after the third.

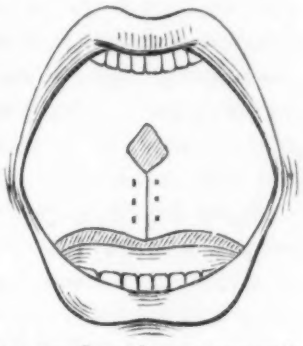
Griping.—From the quantity of blood usually swallowed during the operation, patients are often severely griped. For this symptom the best remedy is an enema, repeated every hour until the blood is brought away. Should it continue for any length of time or be exceedingly severe, an anodyne injection must be employed.

Inflammation of the Fauces.—It not unfrequently happens that inflammation follows the performance of this operation, and may be so severe as to cause great pain, or extending down into the lungs occasion the death of the patient, as was the case with the daughter of Lord Lyndhurst, operated upon by M. Roux in 1836. Should this unfortunate complication make its appearance it must be controlled by the most active antiphlogistic means, such as venesection, leeches to throat, blisters to the same part, and purgative enemata.

It would not of course be proper to administer cathartics; should cough accompany the inflammation it must be kept down by opiates.

Sloughing.—When the inflammation runs high sloughing is almost sure to take place, the ligatures cut out, and the operation almost to a certainty fails, either entirely or in part. As soon as the slough is perceived it should be vigorously attacked by all the remedies calculated to arrest this action. I know of no better agents, however, than a solution of argent. nit. grs. ij; aq. font. ℥i; or a mixture of kreosote gtt. vi; aq. font. ℥ij, applied by a camel's-hair pencil three or four times a day.

Fig. 9.



Failing to Unite throughout.—From sloughing, cutting out of ligatures, or a want of proper action in the edges, the fissure may be but partially closed, as is seen in the accompanying figure. When such a termination of the operation occurs, our work is but half finished, and the holes must be patched or healed by processes hereafter to be described.

Parts too Tight.—It occasionally happens that the union may be perfect, but in consequence of the tissue in the vicinity being more firm than usual, and consequently less yielding, or owing to the large size of the fissure, which requires for its occlusion more membrane than the adjacent parts could well supply, the new velum is so rigid and tense as scarcely to possess motion, and hence hardly participates in the various attempts of the patient at swallowing or speech. When such is the case the operation is but partially successful, and before our patient is relieved we must make an incision on each side parallel to the teeth and half way between the latter and the cleft, by which the tension of the palate is removed and it is rendered subservient to the influence of the muscles in its vicinity. These incisions have sometimes to be made at the time the operation is performed in order to take off the strain from the ligatures. Dieffenbach was the first to propose this, although the credit of the suggestion is claimed by several.

Dangers.—This operation has been repeatedly performed by surgeons both in Europe and in this country, and so far at least the number of deaths resulting from its performance has been comparatively small. Some however have certainly lost their lives, and as it is nearly always an "operation

of choice," no surgeon would be justified in performing it until he had stated fully to the patient and his friends the possibility of a fatal result.

Results of the Operation.—Those not familiar with the operation and its results are very apt to promise a too speedy relief of the defects for which it was performed. For instance, it is often stated that if the adhesions are perfect, the voice will be *immediately rendered natural.* Now so far from this being the case, it requires weeks or even months for it to take place, and unless the patient is aware of the fact he will be greatly disappointed when he first "essays his voice" after it becomes safe for him to do so. The experience of surgeons all goes to prove, however, that the voice *in time* is rendered nearly if not entirely natural, and with this assurance our patient must rest satisfied. Deglutition is at once improved, although even in this respect there may be some disappointment, for if the velum be tight, as is sometimes the case, there will be more or less difficulty in swallowing, which can only be overcome by time or the performance of the lateral incisions already referred to. The distressing inconvenience of food and drink passing through the nose during the attempts at deglutition is however relieved from the moment adhesion is accomplished, and in this respect at least the patient is at once rendered more comfortable. The *durability* of the adhesions has also been made a question; but as far as I have been able to learn, there is no instance of their giving way after the period when inflammation and its results are to be apprehended. The velum made by the surgeon is in every sense as strong and as useful as the natural one.

When the adhesions are imperfect and holes of different shapes and sizes are left, it may be requisite to repeat the operation in part, or resort to other measures for their closure. When not very large I have succeeded in some cases with the aid of the argent. nit. repeatedly applied to the edges of the opening, and a well made obturator either of gold, silver or ivory. The shape of the obturator as well as its size must of course depend upon the nature of the opening, and may be held in its place by wires passed around the teeth, or by a sponge, or it may be made to resemble a common shirt stud, one plate of which rests upon the floor of the nostril, while the other forms a part of the roof of the mouth.

From the imperfect mastication and insalivation of the food persons labouring under cleft palate are very apt to suffer from dyspeptic symptoms. These are of course relieved as soon as the causes producing them are removed.

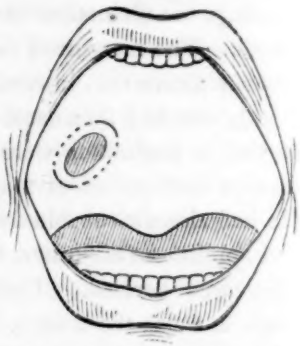
Case II. In the month of June 1840, I was requested to attend Mr. J. W. Richards, who had suffered for a long time from chronic mercurial disease, and who in consequence of this affection had lost a considerable portion of his palate. When I saw him the ulcerative process had ceased, although there existed chronic inflammation of the mucous membrane of the mouth and fauces. In addition to this there was an oval opening, three-fourths of

an inch in length by nearly half an inch in breadth, on the right side of the roof of the mouth, through which the finger might be readily passed into the nostril of the same side. The velum palati was barely involved in this opening, the ulceration having been confined almost exclusively to the hard palate. The margins of the opening were sharp and rigid while the adjacent mucous membrane, in consequence of the previous inflammation, was more closely attached than usual to the osseous portions of the palate. His speech as well as deglutition were much impaired and he experienced great mental distress from the observations of those by whom these defects were noticed. He had already consulted several gentlemen of the profession, one of whom had applied an obturator, from the employment of which instrument slight relief was derived. Caustics had also been employed and every effort made to cause the margin of the wound to granulate, but without the slightest benefit. His general health was such as to contraindicate any immediate attempt by surgical means to remedy the defect, and I therefore put him at once on a treatment for the mercurial disease, promising that as soon as this was cured to do something for the deformity for the relief of which I had been consulted. The remedies prescribed were those usually employed in similar cases, and after the lapse of twelve weeks I had the satisfaction of finding the disease entirely eradicated and my patient in an excellent condition for the operation. From the rigidity of the margins of the wound it was obvious that an attempt to cause them to approximate by the ordinary operation of staphyloraphy would prove utterly useless, and it became necessary for me to devise some other plan of procedure. The size of the opening induced me to abandon the attempt to close it by "two flaps detached from the adjacent soft parts, inverted upon themselves and united to each other in the centre of the wound," as recommended by Krimer; and also deterred me from resorting to the plan of Velpeau and others, in which one or more flaps are made by dissecting up the mucous membrane on each side and then sliding it over the opening, uniting the flaps either at the median line or carrying (when but one is made) the free margin entirely across and stitching it to the adjacent membrane, first made *fresh* by scarification.* The operation of "sliding the flap," modified so as to embrace the operation by "granulation" of Mettauer was finally decided upon and performed in the following manner:—Placing my patient in a good light and having the head firmly supported against the chest of an assistant, he was requested to hold his mouth open as long as possible, all artificial means for accomplishing this object being dispensed with. I then with a small thin convex edged bistoury

* Dr. J. M. Warren of Boston, to whom the profession is indebted for many valuable improvements in operative surgery, and whose success in the autoplastic operations has been very great, recently succeeded in closing a deficiency in the upper part of a palatine cleft, or that portion which extended into the hard palate, by detaching the mucous membrane and sliding it from each side to the median line, uniting the flaps by two or three sutures.

made a crescentric incision through the mucous membrane, and down in fact to the bone, commencing the incision nearly opposite the superior extremity of the opening and continuing it until it reached a point nearly opposite its inferior. A strip of mucous membrane about three lines and a half in breadth, was thus separated except at its extremities from the adjacent parts. A similar incision was then made on the opposite side, (see dotted lines, Fig. 10.) The lips of the little wound were next detached from the subjacent bone to the extent of one line on each side, and then folded, as it were, upon themselves, thus leaving a gutter into which I inserted a small cylinder of soft buckskin. Making the incisions, detaching the lips of the wound and introducing the buckskin occupied but a minute or two, giving the patient little or no pain, and causing no hemorrhage worth mentioning. The first step of the operation was thus completed and the patient ordered to keep perfectly silent. Fearing that the motion of the tongue might displace the buckskin I had prepared a sort of flat obturator mounted upon a piece of elastic wire, the end of which I intended to wrap round a tooth, and by this means keep the plate firmly applied over the wound and thus prevent the escape of the buckskin cylinder; but I found this instrument unnecessary inasmuch as the swelling of the wound was sufficient to accomplish the object in view. Inflammation followed by suppuration speedily supervened, and on the removal of the cylinder seventy-two hours after its introduction a fine crop of healthy granulations was discovered at the bottom of the wound; these rapidly increased in size and soon filled up the space between the lips of the incisions, rendering the introduction of any foreign body for the accomplishment of this object needless.

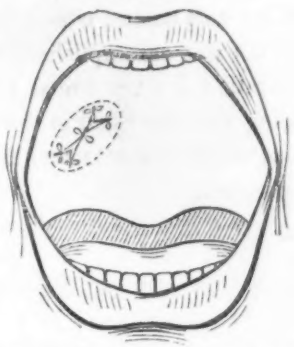
Fig. 10.



In six days after the first operation and when the granulations were in full vigour, I performed the second series of incisions, which were carried between the extremities of the other two, and treated in precisely the same manner. (See Fig. 10.) In six days from the execution of this second operation I found the opening in the palate surrounded by a strip of granulations, and in a proper condition for the last and by far the most difficult step of the whole attempt, the detachment and approximation of the flaps. Having provided myself with two scalpels, half an inch in length by two lines in breadth, cutting on both sides and slightly curved near the points, several very small and nearly crescentric needles, a delicate pair of Physick's forceps, two or three delicate hooks, small dressing forceps, and well waxed ligatures of silk of one thread, with sponges, &c. &c., I proceeded to the performance of the operation. The head being properly placed, I commenced by detaching the mucous membrane all around, dissecting from the margins out to the granulations, which being very yielding, allowed me without difficulty to bring the flaps together, at or near the centre of the opening. To accom-

plish this, a pair of small forceps was employed, and while the flap was held tense by an assistant, I passed the ligature first through the flap on the left side, at its centre and about a line from its edge, and then allowing that to escape from the forceps, the opposite one was made tense and the ligature passed through it at a point directly opposite the little wound in the other; the ligature was then tied, and the flap above, or that next the anterior portion of the mouth brought into the concavity formed by the approximation of the two lateral flaps and attached by a ligature on each side. The lower was next brought to its proper position and there held by similar stitches. The opening in the palate was thus completely "covered in," and presented the appearance seen in Fig. 11.

Fig. 11.



The usual after treatment was pursued and in three weeks from the date of the last operation my patient was perfectly relieved of every vestige of his deformity. The ligatures were cut away on the fourth, fifth and sixth day and nothing of consequence occurred during the period of confinement.

This operation, though tedious, is nevertheless a very useful modification of staphyloplasty and may be resorted to in almost all those cases in which the wound fails to unite throughout, after the usual operation of staphyloraphy; and too much credit cannot be ascribed to Dr. Mettauer for the suggestion of the operation by granulation.* I believe, however, that the case just reported is the first example of the combination of the operation "par glissement du lambeau," and that by granulation. My reason for not making all the granulating wounds at one operation was the fear of cutting off an adequate supply of blood to the margins intended for flaps. By postponing the second operation until the first wound was filled up with granulations and the circulation between them and the adjacent flaps firmly established, I avoided all danger of sloughing from a want of blood. Time, in such cases, being a matter of minor consideration, I did not think myself warranted in running any risk of failing in the operation by an attempt to economise it.

Case III. James Williams, a young man 18 years of age, applied to me in December 1840 for the purpose of having an operation performed for the closure of two openings, (the result of previous inflammation and sloughing,) one of which was situated entirely within the velum, and the other just above it, but located in the hard palate. Both openings were on the right side and separated from each other by a narrow strip of mucous membrane and bone, and pre-

Fig. 12.

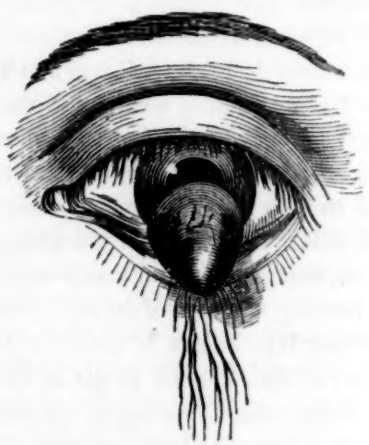
* Amer. Journ. Med. Sci., Feb. 1838, p. 325.

sented each one a callous margin. That in the velum readily admitted the extremity of the forefinger and was ovoid in shape, the other was larger and nearly round. The usual accompaniments of such defects were present, and for the relief of these an operation was desired.

The common operation by interrupted suture was practised on the opening in the soft palate, which united perfectly in about two weeks, and as soon as this was accomplished and the patient had rallied from the effects of the operation I commenced the treatment of the other, the method employed being that described in the report of the case of Mr. Richards. The result was most fortunate and fully justified the confidence placed in this novel operation.

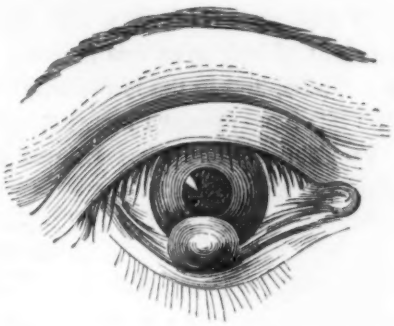
ART. VI.—*Case of Congenital Tumour of the Eye Ball.* By W. T. TALIAFERRO, M. D., of Maysville, Ky.

Miss N. H., aged 15 years, delicate frame, florid complexion, chestnut hair, and blue eyes, visited me in May, 1838, for advice, with a congenital tumour on each eye arising from the sub-conjunctival coat. The tumours were of a delicate pink at their base, becoming brownish at their apices. They were discovered immediately after birth, and had had a steady gradual growth. At the time she visited me, the tumour of the left eye (see accompanying figure,) covered an oval base, about five lines in its long, and three and a half in its short diameter, and rose in a flattened conoidal shape to about six lines in height. Its long diameter ran nearly parallel with a line drawn from the inner to the outer canthus of the eye. It covered nearly the lower two-thirds of the pupil in a pleasantly shaded light. From the apex grew some ten or twelve hairs, about sixteen lines in length, a shade darker than the cilia.



As the tumour grew from the outer and lower part of the cornea perpendicular to the globe, it bore the lower lid far downward and outward. The upper lid was drawn down and could be elevated but very slightly; the cilia of the upper lid came in contact with the globe and the tumour. Exposure to the wind or light, produced a free and slightly purulent discharge, rendering her situation exceedingly distressing. The tumour occupying the two lower thirds, and the superior lid the upper

third of the pupil, she could distinguish no object clearly with this eye. The tumour of the right eye, (see figure,) in shape and situation, relative to the globe, was like to the left; its size about half that of the left, covering about the lower sixth of the pupil. The vision of this eye was good on a horizontal line and upward. The pupils of both eyes were larger than natural; the left about a third larger than the right. Her education had been impossible, and her situation altogether was most deplorable. "Always advised never to disturb the tumour, or the eyes would be inevitably destroyed."



After having greatly reduced the activity of the circulation by medicine and diet, I removed the tumour of the left eye on the 1st of June, assisted by my talented friend and partner, Dr. E. D. Pickett, now of Mississippi. Present Drs. Duke, Marshall, Henry, Fox and Taylor. The dissection was made with *Charrere's* delicate cornea knife, curved scissors and hooked forceps. The operation was rendered tedious from the exceeding vascularity of that portion of the conjunctiva reflected over the tumour, which was supplied with numerous large tortuous vessels converging from either canthus. In its texture the tumour seemed as if composed of lamina, far separated by spongy cellular substance. It was very tough. From the pressure, probably, the external lamina of the cornea were almost entirely absorbed at the lower part, and greatly thinned and softened throughout the extent occupied by the tumour. In fact it was quite impossible to distinguish where the tumour ended and the cornea began; of course, therefore, the corneal texture was much encroached on. The treatment was a dressing of light pledgets, kept constantly wet with cold water, to the eye; aperients, and a gruel diet, &c. &c. In eight or ten days, an evident discharge was begun from the wound, as if for a reproduction of the tumour. This was again dissected off; cold applications made as before growth began again: argent, nitrat. two grs., aq. distillat. ℥j, M. was used. Growth not checked; the solution of nitrate of silver was increased in strength to twenty grains to the ounce with little improvement; the solid argent. nit. was resorted to, and sulphate of cuper alternated; healthful healing began and continued steadily till the wound was well. In the latter part of June, the tumour of the right eye was removed, assisted by Dr. G. W. Bayless, Demonstrator of Anatomy in the Louisville Institute. Present Drs. Duke, Pickett and Marshall. Treated for a few days with pledgets wetted with cold water, and followed by the application of the solid nitrate of silver. Not a single bad symptom supervened. An opacity is left on each eye equal in extent to the

bases of the tumours. The patient was kept in a pleasantly shaded chamber for about eight weeks, and restricted to a vegetable diet. One or two drops of a solution of ten grains of nitrate of silver in one ounce of water was daily applied to each eye. At the termination of the period just named, the sight of both eyes was perfect. The opacity in the right eye is scarcely perceptible, and in the left is only visible when the eye is turned upwards. The lids have resumed their normal position.

In February last Miss H. was in excellent health, and most happy in acquiring an education.

ART. VII.—*An Examination of the Testimony relative to the Efficacy of the Hydrated Peroxide of Iron as an Antidote to Arsenic, with Directions for its Preparation and Exhibition.* By T. ROMEYN BECK, M. D.

IT is now about six years since the use of the peroxide of iron was introduced to the notice of the public. It has been made the subject of numerous, and for the most part satisfactory, experiments on animals; it has been frequently exhibited to persons poisoned with arsenic, and in many instances with success; it is also a substance very easily prepared, and one that can always be kept on hand either by the physician or druggist.

These circumstances might be supposed sufficient to establish firmly the character of any antidote, and I do not doubt but that it is thus viewed by those who have from time to time noticed the testimony adduced in its favour. But this has, in many instances, consisted of brief notices of successful cases or experiments, scattered through the selections and summaries of Medical Journals, and hence has possibly not made that impression which a collection of the whole would produce. With a view to promote that desirable object, and at the same time to urge an early exhibition of this substance in all cases of poisoning by arsenic, I have ventured to prepare the following observations. I propose to follow the following order. 1. A notice of the discovery. 2. The results of experiments on animals. 3. The efficacy of its exhibition on man. 4. The mode of its preparation and exhibition.

I. The earliest notice that I have seen of the efficacy of peroxide of iron as an antidote, is contained in a letter addressed to M. Poggendorf, the editor of a German Scientific Journal by Dr. Bunsen, bearing date Gottingen, May 1, 1834.* In the same year Drs. Bunsen and Berthold jointly addressed a communication on the same subject to the Academy of Sciences at Paris.† It had been previously established by the experiments of Renault and others,

* London and Edinburgh Philosophical Magazine, vol. vi, p. 237.

† Lancet, Oct. 18th, 1834, and American Journal Med. Sci., Feb. 1835, p. 537.

that the native arsenite of iron (mispickel) is nearly innocuous to animals, and on this fact, the investigations of Drs. Bunsen and Berthold seem to have been founded. They also ascertained that "a solution of arsenious acid is so completely precipitated by pure hydrate of iron recently precipitated and suspended in water, that a current of sulphurated hydrogen gas passed into the liquor after filtration, and the addition of a small quantity of muriatic acid, does not indicate the presence of the smallest quantity of arsenious acid." Again, if a few drops of ammonia be added to the peroxide, and it be digested in a gentle heat, with arsenious acid, reduced to fine powder, a sub-perarsenite of iron is formed, which is perfectly insoluble. Encouraged by these results, they proceeded to perform

II. *Experiments on Animals.* From four to eight grains of arsenic were given to two young dogs, and the œsophagus was tied to prevent vomiting, and the peroxide was then exhibited. They lived more than a week without manifesting any of the symptoms of poisoning. A quantity equal to four or six drachms of the peroxide was deemed sufficient to transform in the stomach eight or ten grains of arsenious acid into insoluble arsenite. As however the hydrated oxide is innocuous, they advise its use in much larger quantity. Rabbits also which are destroyed by very small doses of arsenic, were saved by the antidote.

Orfila and Le Sueur repeated these experiments on animals, and generally with favourable results. They found, however, that if the administration of the antidote was delayed beyond half an hour, all the symptoms of poisoning occurred, and death was the termination.* M. Bouley, Jun., of Alfort made an elaborate series of experiments on horses, and which were published in 1835. He ascertained, in the first place, that the peroxide was totally inefficacious in poisoning by arseniate of potash, (Fowler's solution,) and for a manifest reason—the iron cannot overcome the affinity existing between its constituents. But when he gave white arsenic in doses of two ounces and upwards, and followed it by sixty-four ounces of the hydrated oxide, the animals survived. In several instances, the horses thus treated were killed at the end of nine days, and the stomach and intestines bore the marks of the action of the poison, but evidently in a mitigated degree, and sufficient to show that it had been promptly counteracted. In one case, the antidote was delayed twenty-five hours, and the consequence was, the death of the animal twenty-four hours thereafter, and the stomach, intestines and heart bore marks of the violence of the poison.†

M. M. Miguel and Soubeiran of Paris were probably the next experimenters. They found that if a large dose of arsenic was given to dogs, and they were allowed to vomit, it produced no effect, and it was therefore necessary to tie the œsophagus. But this in itself is a fatal operation, and the time that the animal could survive required to be ascertained. A dog

* American Journal of Medical Sciences, vol. xvi, 239.

† Annales D'Hygiene, vol. xii, p. 134; American Journal, August, 1835, p. 518.

whose œsophagus was tied, died in seventy-eight hours, but if nine or ten grains of arsenic were given, and the œsophagus then tied, death followed in two or two and a half hours. In their experiments they used the recently prepared peroxide of hydrated iron mixed with water, in the proportion of twelve parts, to one of white arsenic.

In several instances of dogs thus treated, they survived from seventy-eight hours to six days. But if the exhibition of the antidote was delayed, the animals perished, and the time of death appeared to be hastened exactly in proportion to the delay.*

Again, Drs. Borelli and Demaria of Turin performed experiments also on dogs with even more favourable results. They consider that four and a half parts by weight of the peroxide are required to neutralise one of arsenious acid.†

Dr. Van Specz of Vienna had similar success. He gave arsenic both in powder and in solution, and though in the last the symptoms were more violent, yet in all the animals recovered. He even exhibited the rust of iron successfully.‡

Dr. Donald Mackenzie of Edinburgh has related a number of successful experiments on dogs, with arsenic in the solid form, followed by the antidote in the proportion of from twelve to thirty parts. They were killed, either on the first, third or sixth day after, and the stomach and intestines were found but slightly reddened.§

Lastly I may mention the result obtained by a committee of the Academy of Medicine at Paris, in which not only the hydrated peroxide was found efficient on dogs, but also the common subcarbonate of iron largely suspended in water, four ounces in twenty-four of water. The committee advise that at least half an ounce of peroxide should be taken for each grain of arsenious acid supposed to remain in the stomach.‖

To all this mass of favourable testimony, there can only be opposed the unfavourable results obtained by Mr. Brett and Mr. Orton, (*London Medical Gazette*, vol. xv, p. 220, *Lancet*, November 8, 1834.) But it must be remembered that their investigations were made at an early period of the inquiry; and I may further adopt the remarks of Dr. Maclagan of Edinburgh concerning them. "With respect to the former, it may be observed, that he appears uniformly to have used too small quantities of the oxide, and the experiments of the latter hardly seem to have been made with sufficient care, as appears in one instance, at least from his having injected both poison and antidote into the lungs, instead of the stomach of the rabbit.¶

* British and Foreign Medical Review, vol. i, p. 594.

† British and Foreign Medical Review, vol. i, p. 595.

‡ American Journ. Med. Sci., February, 1838, p. 519.

§ Lancet, April 4, 1840. Amer. Journ. Med. Sci., August, 1840, p. 497.

‖ American Journ. Med. Sci., February, 1838, p. 519.

¶ *On the Action of the Hydrated Sesquioxide of Iron on Arsenic*, by Douglass Maclagan

III. *Its Efficacy as an Antidote on Man.*—In referring to these, I must be brief, indicating merely the leading points worthy of notice.

1. The first case on record is probably that of M. Leger. A child eighteen months old, drank a solution of fly poison, (probably a variable combination of black oxide of arsenic and oxide of cobalt,) and was immediately seized with symptoms of violent colic. The accident was soon discovered, and the hydrated peroxide was instantly given. Its effects were completely successful within a few hours. *American Journal of the Medical Sciences*, vol. xvi, p. 239.

2. M. Geoffroy of Paris gave it in twenty minutes after arsenic, stirred about in water, had been swallowed by a man aged 36. Four or five pints of water, charged with it, were given in a quarter of an hour. Vomiting ensued; but the patient suffered none of the ordinary symptoms of arsenic. He had taken a drachm and a half of arsenic. The next morning he was well. *British and Foreign Medical Review*, vol. i, p. 572. *American Journ. Med. Sci.*, February, 1836, p. 501.

3. Drs. Bineau and Majesté of Saumur, in France, relate five cases that occurred in 1835. As many little girls aged from five to nine years, on leaving school, ate part of a cake, containing one fifth of its weight of white arsenic which had been prepared to kill rats. They all were affected violently with the early symptoms of poisoning, and were not seen until two hours or more after the accident, yet all recovered by the free use of the antidote. *B. and F. Med. Rev.*, vol. i, p. 573.

4. Dr. Buzorini relates in *La Lancette Francaise*, November 17, 1835, two cases successfully treated. *American Journ.*, August, 1836, p. 504.

5. Dr. Chilton of New York, in the United States, *Med. and Surg. Journal*, vol. iii, p. 54, also relates a successful case.

6. Mr. Robson, of Warrington, administered with success first, the subcarbonate of iron, in doses of six drachms, two hours after the poison had been taken, and afterwards the prepared oxide. Nearly three drachms of arsenic had been swallowed. *American Journ. Med. Sci.*, May, 1837, p. 222.

7. Dr. Thomas, of Baltimore, in a case where twenty grains of arsenic in powder had been given, gave the peroxide with success. *American Med. Intelligencer*, vol. ii, p. 117.

8. Dr. Macdonald—a successful case in *New York Journal of Medicine and Surgery*, vol. ii, p. 205.

M. D., Lecturer on Materia Medica. *Edinburgh Medical and Surgical Journal*, vol. liv, p. 106. This is a valuable paper in reference to the chemical action of these substances on each other. I have only space to notice the conclusion to which he arrives, and which is, that "the hydrated oxide of iron is a real chemical antidote to arsenious acid, and that when it removes arsenic from solution and soluble combinations, it acts by chemically uniting with it." The large quantities which have been found necessary, are required, not to protect the stomach mechanically, but to render the poison chemically inert.

9. Dr. Gerhard—a successful case in the *Philadelphia Medical Examiner*, vol. iii, p. 250.

10. Drs. Smiley and Wallace in the *Philadelphia Medical Examiner*, vol. iii, p. 679, out of a family of eight persons poisoned by a pudding of Indian meal, prepared for rats, death followed in two cases in seven and nine hours. They could not retain the antidote, but immediately rejected it. The symptoms of all the others were immediately mitigated by its use, and they all recovered.

11. Dr. Murray, of India, successful. *Amer. Journ. Med. Sci.*, Feb., 1839, p. 503, from the *Calcutta Medical Journal*, December, 1837.

12. Mr. Deville, of Paris, successful. *American Journ. Med. Sci.*, May, 1839, p. 243.

13. Dr. Puchelt, Jun., seven cases of recovery. *Edinburgh Medical and Surgical Journal*, vol. liv, p. 263.

It would not be difficult to add considerably to this list. But I have adduced enough to warrant a belief in the efficacy of the antidote. I trust, however, that none of my readers will be led to suppose, that in cases of poisoning by arsenic, they are to depend *solely* on it. Vomiting should be promoted as early as possible, and indeed every mode now in use for the speedy evacuation of the poison. The antidote will find sufficient to operate on what still remains and cannot be removed.

4. *The Mode of its Preparation and Exhibition.* Lassaigne had recommended the following process. Take iron turnings, pour on them four times their weight of the nitric acid of commerce gradually, so as to avoid too rapid an action. A portion of the nitric acid will yield its oxygen to the iron, and change it to a peroxide, which unites with the undecomposed nitric acid, and forms pernitrate of iron. As soon as the action of the nitrous vapour has ceased, add ten or twelve parts of water to dissolve the pernitrate and to precipitate the undissolved turnings. Decant and filter the solution, and add aqua ammonia, until litmus paper becomes blue. A yellowish brown precipitate is formed, which is the hydrate, and which should be washed with boiling water, to free it from the remains of the acid.

Drs. Bunsen and Berthold, however, prefer that preparation obtained by taking a pure solution of the sub-sulphate of iron, increasing its dose of oxygen by heating it with nitric acid, and then pouring into the solution an excess of caustic ammonia. The hydrated oxide is now obtained by decantation. They advise that the nitric acid be added in small portions at a time, otherwise a quantity of the neutral sulphate of the sesquioxide is separated in the form of a yellow powder, which is but slightly soluble. They also insist on the danger of using any other alkali than ammonia.

The Edinburgh college has introduced it into its pharmacopœia, with nearly identical directions, which I copy from Dr. Maclagan's paper, already referred to. "Dissolve sulphate of iron in water, with a little sulphuric acid, adding nitric acid by degrees till it is thus fully oxygenated, and then

precipitating the hydrated sesquioxide from this solution by an excess of ammonia. The product thus obtained is of a deep reddish brown." It should be carefully washed, to remove the ammonia; but this can hardly be completely effected without the application of heat; and I apprehend that this last is not to be recommended.

The dry hydrated oxide is inert. It is therefore necessary to keep the antidote, when prepared, under water. It may thus be preserved uninjured in its qualities for a length of time. Professor Fisher, of Maryland, has shown this conclusively in an elaborate paper in the twelfth volume of the *American Journal of Pharmacy.* "In the moist state, it is in the finest possible state of division, and hence best adapted as an antidote."

It is not necessary therefore to have it *freshly prepared* for every case, and the practitioner has only to keep a quantity on hand in closely stopped bottles, remembering to shake it well before administration.

As to the quantity necessary to be given, I will again quote Dr. Maclagan. "As far as chemical evidence goes, at least twelve parts of oxide, prepared by ammonia, and moist, are required for each part of arsenic, and this same proportion has been indicated by several of the French experimentalists as being required to insure its antidotal effects."

But it may be said that in some instances we cannot ascertain how much arsenic has been taken, and the inquiry may be renewed, how are we then to act. To this, I reply, by recommending that to an adult, a tablespoonful, and for children a desert spoonful, should be given every five or ten minutes until relief from the urgent symptoms is obtained.

Albany, *May* 19, 1841.

Art. VIII.—*Case of Nephritis.* By A. B. Snow, M.D., of Boston, Mass. Read before the Boston Society for Medical Improvement, March 23, 1841.

But few unequivocal cases of acute nephritis have been recorded in the medical annals of this country; not because the disease is of unfrequent occurrence, but because the symptoms indicating it so often resemble those of other affections, that it is not recognised; and when suspected, the opportunities for post mortem examinations are so restricted, that its existence cannot be verified; and consequently, many practitioners actually deny that it ever obtains. The following case will be interesting to the profession, inasmuch as it demonstrates that the disease does occur as idiopathic, and also that it is a disease of very great severity, and that its symptoms are peculiar and in some respects specific.

March 4, 1841. Mrs. T., ætat. 61, had led a very regular, industrious

and rather active life, and for the last forty years had enjoyed good health, with the exception of an occasional sickness of a few days merely. This day she complained of a troublesome diarrhœa and great pain in the abdomen. At night she took a dose of Brandreth's pills, and went to bed. She did not get much sleep. The pills operated as a cathartic, as she supposed, and rather aggravated the pain.

5*th*. Her diarrhœa continued, though her evacuations were small. She had chills, but no heats nor sweats; very great nausea, but no vomiting; she passed a restless night.

6*th*. I was called to attend her. I found her with a pain in the right iliac region, extending backwards to the spine and forwards to the umbilicus; diarrhœa; no straining; chills and heats; dry skin; tongue natural; pulse ninety-six, soft and regular. I did not suspect nephritis at the time, consequently she was not examined with a view of detecting it. Prescribed opium and the submurias hydrargyri in small doses, alternated with the mistura calcis carbonatis; applied external warmth to the body, and recommended abstinence from food and drinks.

7*th*. She passed an uncomfortable night, the pain being more severe; her other symptoms the same as the day before. The former prescription was continued, with the addition of strong counter-irritants over the region of pain, and an increase of opium. About the middle of the afternoon the diarrhœa ceased; the nausea then became very great, and towards night she vomited several times.

8*th*. She passed another restless night; the pain is more circumscribed and more severe; pulse, skin and tongue, remain much as they were on Saturday. Strong irritants were continued over the seat of pain, and tepid bath to the feet. In the afternoon nausea and vomiting became constant, with tenesmus; learned that she had passed no urine during the day, and probably not since she became sick; the nausea was so great as to forbid the administration of diuretics. A large dose of submurias hydrargyri was retained upon the stomach, and she was put upon the use of the hydrocyanic acid, hot mustard poultices were applied to the side, fomentations to the abdomen, &c.

9*th*. She is somewhat relieved of the pain, but there is very great tenderness in the iliac region, and to a considerable extent over the whole abdomen; pulse, skin and tongue, the same as yesterday; the vomiting has ceased, but the nausea and tenesmus continue; great thirst, but avoids drinks lest she should immediately eject them; restless; no secretion of urine; no cathartic operation from the medicine. Prescribed a saline purgative, and she afterwards took freely of the spirit of nitric ether; external applications as usual.

10*th*. There is a general aggravation of all the symptoms; the vomiting has returned with great violence; pulse, skin, and tongue, however, remain unaffected; no cathartic operation from the medicine and no secretion of

urine. Applied leeches over the region of the right kidney, frictions to the abdomen, with a mixture of olive and Croton oil, and repeated the enema; fomentations, &c., continued.

11*th*. No alterations of the symptoms, excepting a diminution of pain and tenderness over the kidney and in the abdomen; no cathartic operation; the injections are all retained; no tenesmus; no urine. Advised a discontinuance of all medicine except the hydro-cyanic acid, and an occasional enema; the frictions to the abdomen were also continued.

12*th*. There is a little improvement in the symptoms; she has passed a comfortable night; has had a small alvine evacuation; the vomiting, however, continues; pulse, skin and tongue unaltered; thirst great; no urine. A catheter was introduced into the bladder, and about a tablespoonful of chocolate-colored liquid was drawn off. Some purgative pills were administered which were retained *on the stomach*, and towards night a free evacuation of the bowels took place, after which the vomiting ceased during the night.

13*th*. She has slept all night; has no pain, but great tenderness upon pressure over the region of the kidney and abdomen; no more evacuations from the bowels, and no urine; respiration twenty-two in a minute; other appearances, the same as yesterday; vomiting returns this morning with great frequency. Gave her a small dose of ipecacuanha, which vomited her gently and afforded considerable relief for a few hours. Then the vomiting returned with increasing violence; she continued exceedingly sleepy, but not comatose. Administered soda, &c. &c.; applied blisters to the epigastrium.

14*th*. No pain, and the tenderness diminishes; sleeps all the time; vomiting almost constantly, but it scarcely rouses her from her sleep; no evacuations from her bowels, and no urine; no change in the pulse, skin and tongue. An occasional enema only was advised; she was allowed to take freely of wine, brandy, gin, &c.

15*th*. She has not vomited through the night, and had no cathartic movement; she is comatose; thirst great; pulse and tongue the same as formerly, but the skin has become white and emits a most decided smell of urine; respiration sixteen in a minute and extremely offensive; a very striking efflorescence or concretion now made its appearance over the whole surface of the body. It was perfectly white, and thickest upon the face. The particles were globular and oblong, and varied in size from that of a pin's head to a kernel of wheat. They were dry and friable, and if wiped off, would reappear in the course of a very few minutes.

16*th*. No change in the general symptoms, excepting that they all take on the appearance of a more speedy and fatal termination; it is difficult to rouse her, or to cause her to swallow; permanent contractions of the pupils; the tenderness in the abdomen and side has subsided, or else she is not conscious of it; the efflorescence is diminished, and the breath is not offensive.

17*th.* She has involuntary discharges from the bowels, but they are not offensive; tongue has become dry, brown and crusty; tympanitis; stertorous breathing; all other functions remain suspended; she continued in this state through the day and night.

18*th.* She died this morning without spasms or any apparent suffering.

Autopsy by Dr. Charles Ware, in presence of Drs. J. B. S. Jackson, Jacob Bigelow and John Ware. There was recent pneumonia of the lower lobe of the left lung; no other traces of disease were found, excepting in the urinary organs. The right kidney showed decided marks of acute inflammation; the tubular portion was healthy. About one-half of the cortical portion was opaque, whitish, and seemed infiltrated with lymph. A little serum oozing out upon pressure, but no pus; the remainder was red, and in no way remarkable, the outlines of the two colours being distinct, and as much so on the external as the internal surface. White deposit in diffused patches and a few small scattered spots over the whole cortical portion. The organ was rather flaccid and friable, but no where broken down; strong urinous odour; size and form natural. A few small bloodvessels in the substance, obstructed by a mixture of fibrine and coagulated blood, evidently from inflammation; but it was not ascertained whether they were arteries or veins; some dirty, thick, brownish liquid was found in the pelvis. The external tunic was healthy.

The left kidney was remarkably atrophied; in its substance were found cavities of the size of large peas, evidently formed by the infundibula. They were filled with a clear liquid which had no urinous odour. The inner surface was smooth and polished, and lined with a thin pellicle, which could be removed, and which had a most remarkably pearly lustre and whiteness. The remainder of the organ formed a sort of cyst investing the cavities, and was generally about two lines in thickness. The situation of the pelvis filled up with fat. Ureter impervious. The bladder contained about a tablespoonful of thick, brown liquid, similar to that found in the pelvis of the right kidney. There were also marks of slight inflammation in the neck of the bladder.

Remarks.—It will be seen by the foregoing case that the most prominent symptoms, and those which appear to be to a great extent specific, are suppression of urine, an acute pain in the region of the kidney, extreme irritability of the stomach, obstinate constipation of the bowels, and at times a strong urinous odour, with a comparatively healthy pulse, skin and tongue, and little febrile action. Whether the efflorescence upon the skin was a specific symptom of this disease, or an accidental occurrence, is a matter of conjecture, and whether all these symptoms might not occur from some other cause, will perhaps be questioned by some. To my mind it is very satisfactory that they would not, especially in the order in which they appeared in this case. The suppression of urine, though not discovered till it had existed some days, undoubtedly took place at the commencement of

the disease. The irritable state of the stomach, and the great pain in the region of the kidney, which immediately followed, did not materially disturb the healthy condition of the pulse, skin and tongue; even coma, attended with stertorous breathing did not affect them. I can think of no other disease that would produce a similar set of symptoms. Hence their importance and their specific character.

There are other facts and views connected with this case, which give to it additional interest. It will be seen that the left kidney remained unaffected during the process of the destruction of the other, and on post mortem examination, was found atrophied, and of course its function destroyed. I have since learned, that about forty years ago, this patient was sick for a long time, and the urinary organs were the parts affected. Her particular symptoms, the friends now living cannot recollect. The probability is, that the left kidney was destroyed at that time. Whether the right kidney sympathised with it then, I cannot learn, but its function was continued; therefore we may infer that, had the left kidney been in a healthy condition at the time of her last sickness, it would have performed the function of secretion, and the patient would have survived the existence of the disease. We also infer that acute nephritis of one kidney may, and does often occur, and even destroy the function of the organ, without exhibiting any fatal symptoms, not even enough to lead to the detection of the disease. Suppression would not take place, so long as one kidney performed its function. Coma, which we suppose is induced by impure quality rather than an undue quantity of the blood, and which depends on suppression, would not supervene. The urinous odour would be wanting, and the irritable stomach and the constipation would indicate various diseases, while the pulse, skin, and tongue would be no direct guide. Hence it will appear that it is only complete, or nearly complete suppression that would lead to the suspicion of the existence of the disease. It will appear also, that when the disease is sufficiently developed to be detected, the prognosis must be unfavourable.

Is it not an interesting fact, that in the foregoing case, the right kidney should perform double the secretion it was intended by nature to perform, and continue it for forty years without becoming diseased?

ART. IX.—*Report of Cases Treated in the Baltimore Alms-House Hospital.* By SAMUEL ANNAN, M.D., Senior Physician to the Institution.

CASE I. *Hypertrophy and Dilatation of the Heart—Valvular Disease.*—R. A., ætat. 68, admitted April 23, 1840. Her health for the most part has been good. When she caught cold she was afflicted with slight rheumatic pains, ever since she was eighteen years of age. Eight or nine years

ago had something of the dropsy. Her abdomen, feet and legs were swelled, but she was soon cured. During seven years past has observed that on walking fast up stairs, or up a hill, her breathing became laborious. In March, 1839, her respirations became constantly difficult. Last autumn was first troubled with a short, hacking cough, which still continues. She now expectorates a little viscid mucus; respiration forty-four in the minute; countenance anxious; lies and sits with her mouth open, and her tongue projecting forwards between her teeth and lips, and pressing upon the lower lip, which it pushes outwards considerably; abdomen, arms and legs are swelled from dropsical effusion; restless at night, except when she takes opium; cannot lie in the horizontal posture, but has to be supported by pillows almost erect; appetite good; bowels regular. On examination by percussion, the left side of the chest was found to be dull over the lower half; this was when she was in the semi-erect position; with the stethoscope, the impulse of the heart was observed to be not increased; both the normal sounds were entirely obscured by a loud saw murmur, which had taken their place, and for the most part but one sound could be heard. Every four or five beats, however, there was an interval, during which one small and feeble stroke, and occasionally two, having no murmur connected with them, could be perceived; there were sixty-three of the first kind, and twelve of the latter, in the minnte; the pulsations of the artery at the wrist, corresponded exactly with the beats of the heart; there was low and indistinct bronchial respiration at the middle and lower parts of the left lung; at the top the respiratory murmur was loud and clear; all over the right side, and at the top of the left there was sibilus, which could be heard only during expiration; the expirators were loud and very protracted; the inspirations were very short, and much less audible; the saw murmur of the heart could be heard over all the space which was dull on percussion, and also at the top of the sternum. On the morning of the 19th of May, the nurse of the ward observed that her difficulty of breathing was greatly increased; she was forced to sit on the side of the bed, and lean forward on a small table; she expired on the following morning.

Post mortem examination eight hours after death. *Exterior.*—Universal Anasarca.—*Thorax.*—Both sides of the chest were filled with serum. The heart was more than twice the ordinary size. It was the left ventricle that was hypertrophied, the walls being double the usual thickness. It was also dilated. All the other cavities were dilated to at least twice the natural dimensions. Both auriculo-ventricular orifices were enlarged. The mitral valve was very much thickened and indurated, and there was considerable ossific deposit at the base of the posterior division. The sigmoid valves of the aorta were thickened and ossified, and the one adjacent to the mitral valve, to the extent of being immovable. The aorta was greatly dilated, and nearly the entire inner surface of the ascending aorta and the arch was rendered rough by large and small plates of bone. The opening

from the heart was very large. The lungs were compressed and the larger bronchial tubes were red.

Abdomen.—There was a large quantity of serum in the sac of the peritoneum. The mucous coat of the stomach and small intestines was red, from congestion of the large veins. The liver and kidneys were black with accumulation of venous blood; and from the former it could be squeezed as from a sponge.

Remarks.—The case which I have given confirms the views of Hope, Williams, and Elliotson, relating to the physical signs of valvular disease. Both sounds of the heart were obscured by the saw murmur. The rough surface of the semilunar valves of the aorta, over which the blood passed during the ventricular systole, produced that part of the murmur which had taken the place of the first sound; and the regurgitation from the aorta, the opening being enlarged, and the valves nearly incapable of action, caused that which had destroyed the second sound. The thickening, induration, and ossification of the mitral valve, doubtless assisted, in some degree, in augmenting the loudness of the unnatural murmur. The auriculo-ventricular orifice being enlarged, and consequently not obstructing the blood in its passage from the auricle to the ventricle, there could not be much, if any, addition to the murmur accompanying the ventricular diastole. But the regurgitation which occurred during the systole, from the ventricle into the auricle, must have rendered the first part of the murmur more audible. The anormal murmurs produced in these two modes, were so blended as to cause but one continuous sound. The roughness of the inner surface of the aorta must have increased the murmur along the sternum.

Disease of the aortic valves, we may safely suppose was the primary change. Regurgitation into the ventricle would produce dilatation and hypertrophy; while the same cause would produce dilatation of the left auricle. The obstruction to the passage of the blood from the lungs to the left side of the heart, must necessarily dilate the right ventricle and auricle. Congestion of the viscera would ensue; and we thus have explained the venous engorgement of the mucous membrane of the lungs, stomach, and intestines, and also of the liver and kidneys. The dropsical effusion was brought on by the same obstruction of the circulation, causing congestion of the capillary system. This effusion must have been greatly increased in quantity during the night preceding that of her death. This is shown by the embarrassment of the respiration having become so great that she was compelled to sit on the side of the bed and lean forward on a table. In this position the abdominal muscles were greatly relaxed, and the diaphragm was allowed to descend to its utmost limit; of course followed by the fluid in the thorax; by which means the upper part of both lungs was freed from compression, and the air suffered freely to enter.

Case II. *Dilatation of the Heart.—Valvular Disease.*—J. C., ætat. 55,

admitted March 2, 1840. Habits somewhat irregular; caught cold about Christmas, and ever since has had a cough, with copious expectoration of a thick, yellow matter. His breathing became short and laborious about the last of January, and is getting worse; chest dull on percussion over the upper half of the right side, and under the clavicles on the left side; bronchial respiration and bronchophony at the same parts; better marked under the clavicles, and especially on the left side; pectoriloquy at the top of the scapula on the right side; impulse of the heart somewhat increased, and a loud saw murmur can be heard, accompanying or rather taking the place of the second sound, which it entirely obscures. The pulse is a little accelerated and feeble; tongue pretty clean; emaciation considerable; face pale; has been treated with palliatives. On the evening of April 13th, was seized with great difficulty of breathing, became rapidly worse, there being great prostration, and a very small, feeble pulse, and he died on the morning of the 14th.

Post-Mortem, 24 hours after death. Thorax.—The heart was enlarged to double the ordinary size. This arose chiefly from dilatation of the left ventricle. Its walls were but slightly thickened. The right auricle was greatly distended by a coagulum of blood. The ventricle of the same side was nearly empty. The pericardium contained about four ounces of serum. The anterior division of the mitral valve was very much thickened, and indurated; and at its base, where it is attached to the heart, there were a few spiculæ of bone. The posterior division was slightly thickened. The left auriculo-ventricular opening was somewhat enlarged. The sigmoid valves of the aorta were ossified so as to be immovable. Their whole substance was filled with osseous matter which projected in rough points on both sides. The orifice of the aorta was contracted so that the forefinger filled it. The aorta was a little rough in a few places at its beginning. The right side of the heart was normal, with the exception of a slight thickening of the edge of one of the divisions of the tricuspid valve.

The right sac of the pleura contained a quart of serum; the left half a pint. There were a few old adhesions on the right side. The upper and middle lobes of the right lung were filled with small tubercles, and these lobes were as solid as liver. At the posterior part of the apex of the upper lobe, there was a cavity of the size of a large walnut. Three or four other small cavities were seen at the same part. The left lung contained a few tubercles. The top of the upper lobe was pretty solid, and was in a state approaching to carnification. This part was filled with serum. The lower lobe of the right side was tolerably healthy; as were also the lower parts of the left lung. The bronchial tubes over a considerable part of both lungs were of a dark red color; more generally through the right than through the left lung. There was a good deal of yellow mucus in the tubes, and considerable congestion of both lungs.

Abdomen.—The mucous coat of the stomach was mamillated over its entire surface; except about the cardiac orifice. The colour was normal.

The liver was rather darker than is natural. Other viscera normal. There was ossific deposit under the inner coat of the arteries, in various parts.

Remarks.—The murmur in this case must have been compound. There was, first, the direct murmur produced by the passage of the blood over the thickened and indurated mitral valve; and, second, the regurgitant murmur, from the return of the blood through the aortic orifice. Both of these murmurs are always associated with the second sound of the heart. What is remarkable, however, is, that the exit of the blood from the ventricle did not cause a murmur corresponding with the first sound of the heart. The blood passed over the same rough surface, going as returning, and we would look for an unnatural sound in the one case as well as in the other. It is true that in going out of the ventricle, the obstruction was not so great as in returning. In the passage out, there was no projecting ridge, against which the blood impinged; the base of the valves being attached to the heart, there was a continuity of surface. Whereas in returning, the margins of the three valves being raised out of the sinuses of Valsalva, and presenting an elevated and immovable ridge, the obstruction must necessarily have been very great.

Case III. *Laryngitis.—Œdema of the Lungs.*—S. H., ætat. 33, negro, admitted March 7th—died March 17th, 1840. This man had been hostler at a tavern, was much exposed to cold and rain, and was in the habit of using ardent spirit freely. When admitted, he had a large foul ulcer on the inside of the left foot, at the root of the great toe; his left leg and thigh were œdematous, and enormously swelled, especially the leg. His breathing was quick and laborious, and he could articulate only in a hoarse whisper; his cough was not very distressing; his countenance expressed great anxiety; the pulse varied from 120 to 130 in the minute, and was full and rather firm; the tongue was dry, red, and cracked; the chest was generally dull on percussion, and the respiration was scarcely audible; there was a slight crepitation. He was bled to twelve or sixteen ounces, was moderately purged with salts and antimony, in divided doses, and then took five grains of blue mass, night and morning, with one grain of digitalis, and ten of nitre, three times a day. Fomentations, a blister, and emollient poultices were applied to the throat, and the mouth and fauces were frequently gargled with warm water; the free use of diluents was also enjoined. Under this treatment, the swelling of the thigh entirely disappeared, and that of the leg diminished considerably; the oppression of the breathing, however, was but little, if at all lessened; and the hoarseness continued to increase; he sank gradually, without any very perceptible aggravation of the symptoms.

Post-mortem, 24 hours after death.—Thorax.—There was serum in both of the pleural cavities;—about three pints in the left, and one pint in the right. There was slight redness of the pleuræ, with a small portion of lymph effused. The cellular tissue of both lungs was filled with serum,

which could be squeezed out as from a sponge. There was also a considerable quantity of serum in the bronchial tubes. The mucous coat of a few of the tubes was of a dark red colour; but in most of them it was but slightly reddened. The inner surface of the larynx was coated with muco-purulent matter, somewhat flaky, but of soft consistence. The epiglottis was of a dark red colour, and very much swelled, chiefly from effusion of serum in the sub-mucous coat. The vocal cords were also considerably swelled from the same cause; and the whole surface of the larynx was red and rough. The trachea was of a deep red color, down to the bronchial divisions, but was not coated either with mucus or pus.

Abdomen.—The mucous coat of the stomach was of a light slate color, over nearly its entire surface. Three patches of considerable size, were reddened, by congestion of the veins, and effusion of blood forming spots of ecchymosis. The mucous coat at these red places was softened. At the other parts it was thickened and hardened. The liver was somewhat enlarged, and of a greyish, yellow color, both externally and internally.

Remarks.—Laryngitis and bronchitis were unquestionably the beginning of the attack; the former was severe; the latter was mild. There was neither much cough nor expectoration; this proves that the bronchitis was not severe. The post mortem appearance of the bronchial membrane, shows the same state of things. It was but slightly reddened through the greater part of the tubes. The serous diathesis was strongly marked, and as a consequence, effusion of serum took place, before the inflammation ran high. The light slate colour of the mucous coat of the stomach, the ecchymosis, and red softening of some parts, the thickening and induration of other parts, and the enlargement aud yellowness of the liver, were all the effects of habitual drunkenness. By the same cause, the strong predisposition to hydropic effusion was produced. As soon, therefore, as inflammation was set up, the congested capillary arteries and veins poured out serum; and long before the inflammation reached the point when lymph would be secreted. As regards the treatment of the foregoing case, although the hydropic diathesis was strongly marked, in which condition bloodletting is contra-indicated, yet as the laryngitis was considered so important a part of the disease, and as the pulse, notwithstanding its frequency, was full and pretty firm, a moderate bleeding was thought to be advisable. The diuretics and mercurials acted well, as was shown by the disappearance of the swelling of the thigh, and the diminution of that of the leg; and if there had not been so much derangement of the stomach and liver, accompanied by so great a degree of the serous diathesis, the laryngitis and bronchitis might have been cured, and the effused fluid, both in the lungs and lower extremity have been made to disappear. If the œdema of the lungs had not been associated with laryngitis, a complication very uncommon, inasmuch as bronchitis seldom or never occurs at the same time with laryngitis, the case

would have been much less difficult of management, and the probability of a favourable termination much greater. As it was, the prognosis was as unfavourable as could be given.

Case IV. *Paralysis of the Left Side of the Trunk and Extremities, and of the Right Side of the Face.*—S. G., ætat. 28, negro, admitted April 7th, died June 5, 1840. She had followed the business of a washerwoman, and her health, previous to this attack, was good. On the 14th of May, 1839, while engaged in washing, was suddenly seized with an acute pain of the right side of the head, and fell down in a state of insensibility, in which state she remained during twenty-four hours. When she recovered her senses, she found she had entirely lost the power of moving her left arm, and in a great degree that of moving the leg of the same side. The right side was unaffected, with the exception of the face, the muscles of which had become paralyzed; those of the left side of the face still retained their accustomed power of motion; when her tongue was thrust out, it inclined very much to the right side; the sensibility of the left side was destroyed, and likewise that of the right side of the face; she could not hear with the right ear. The right eye became inflamed several weeks before her death, and the cornea was slightly ulcerated; the upper eyelid was constantly raised. When she attempted to speak her muttering was scarcely intelligible; paralysis of all the parts affected was complete; deglutition and mastication were performed with great difficulty.

Post mortem examination twelve hours after death. *Brain.*—There was venous congestion of the surface, and of the medullary centres of the hemispheres of the cerebrum. There was a fibrous, semi-cartilaginous tumour on the right side of the tuber annulare and medulla oblongata, seated in the substance of the dura mater, arachnoid membranes and the pia mater. It extended from the point where the fifth pair of nerves arises from the tuber annulare, covered the origin of this nerve and the whole of the right side of the tuber below this, and passed down along two-thirds of the medulla oblongata, and adhered to the right side of the basilar artery. The right vertebral artery was enclosed in the substance of the tumour. It was about two inches long. The surface of the root of the right crus cerebelli, on which it pressed, was softened, as was also that part of the tuber annulare, on which it lay. It was incorporated with the substance of the right side of the medulla oblongata, and had produced softening as far as it reached. This softening extended through the posterior tract, but became less as it approached the posterior surface. The anterior tract was a pulpy mass. Neither the anterior nor the posterior tract of the left side was perceptibly affected. The tumour pressed upon, and had caused softening of the roots of the fifth, seventh, eighth and ninth pairs of nerves. The bone was rough about the foramen lacerum posterius, and the condyloideum anterius.

The viscera of the thorax and abdomen were sound, with the exception of the liver, which was of a yellow colour.

Remarks.—The symptoms, in the case given above, corresponded very exactly with the seat and extent of the disease. The right side of the medulla oblongata was softened to the extent of complete disorganization. There was complete paralysis of both motion and sensation on the left side. The decussation of the fibres of the corpora pyramidalia, explains the loss of motion of the opposite side; but as we have no facts proving a similar interlacement of the fibres of the posterior or sensory tract, it is not so easy to discover how it happened that the right side was not deprived of sensation. Motion and sensation were unimpaired in the extremities of the side diseased; they were both destroyed in the same parts of the opposite or left side. Are we not justified, from this, in making the inference, that there is a decussation of the filaments of sensation, as well as those of motion?

The fifth pair of nerves is formed, on each side, of two sets of filaments, viz., one for motion, the other for sensation. The former take their origin from the intercerebral commissure, which lies between the cerebrum and cerebellum, and is composed, in part, of the valve of Vieussens; while the latter can be traced down the posterior columns of the spinal cord, about an inch and a half below the tuber annulare. They were both pressed upon, by the upper part of the tumour, at the point of their emergence from the tuber, and the sensory portion, was involved in the general destruction of the texture of the medulla oblongata. The motory filaments being distributed to the muscles concerned in the motions of mastication, viz., the masseter, temporal, pterygoid, and buccinator, and those of the right side being paralyzed, the power of masticating food, was consequently rendered imperfect. The sensory portion, distributing its filaments to the mucous membrane of the nose, of the palate, the pulpy structure of the teeth in both jaws, the papillæ of the tongue, many parts contained within the orbit, the lachrymal apparatus, the conjunctiva &c., and the skin covering the face, all these parts were necessarily deprived of sensibility. The seventh pair, formed under the old division of the facial and auditory nerves, or of the portio dura and portio mollis, is attached to the medulla oblongata, between the corpus pyramidale and olivare, just below the pons Varolii, and was involved in the disorganized mass. The facial nerve supplies the muscles of the face, including the orbicularis palpebrarum. The paralysis of this muscle prevented the closure of the eyelids; and the consequent exposure of the eye to particles of dust contained in the air, with the diminished sensibility of the conjunctiva, from the paralysis of the sensory portion of the fifth pair, the eye not feeling the irritation, of course no tears were secreted to wash out the irritating matter, explains the inflammation of the conjunctiva with ulceration of the cornea. The auditory nerve being destroyed,

there was deafness of that ear. The glosso-pharyngeal, par vagum, and spinal accessory nerves, were all destroyed. The first supplies the muscles of the pharynx and tongue; the second distributes motor filaments to the larynx, furnishing the muscles concerned in the production of vocal sounds, with motory power. The ninth, or lingual nerve, was likewise included in the disorganised mass. It goes to the muscles of the tongue, and also to those of the os hyoides. The muscles of the larynx and tongue of one side, having thus lost their power of motion, speech and deglutition were rendered imperfect. The genio-hyo-glossus of the opposite side, retaining its power of acting under the will, pushed the tongue to the right side when it was thrust out. We thus have a satisfactory explanation of the whole extent of the paralytic affection.

Case VI. *Pleuræ Pneumonia.—Pneumo-Thorax.—Gangrene of the Lungs.*—M. R., ætat. 19, admitted May 2d—died May 3d, 1840. This girl was a prostitute, and the persons who brought her to the institution, said she had been ill two weeks; she was delirious, and incapable of giving any account of herself; she had been attended by a physician, but no information as to the treatment adopted could be procured; she was very restless, and was constantly talking and groaning; the skin and white of the eyes were of a bright yellow colour; tongue dry, and coated with a yellowish brown fur; teeth covered with dark brown sordes; respiration frequent, but not laborious; pulse 120, and of tolerable strength; there was general dulness of the chest, on percussion, with feeble respiration. Eight ounces of blood were taken from her arm, and she was ordered two grains of calomel every two hours until it purged. Early the next morning, her breathing suddenly became very laborious, and in the afternoon was extremely so, accompanied by great heaving of the chest; pulse 120, full, but compressible. She was ordered infusion of serpentaria, with camphor julep; she died that night.

Post-mortem, 12 hours after death.—Brain.—There was great congestion of the large veins of the surface of the hemispheres, and numerous, and large red points were visible, on slicing the medullary substance. *Thorax.*—On cutting into the left cavity of the chest, air rushed out with a whizzing noise. The left lung was pressed close to the spine, and was of a dark brown, and in spots, of a black colour, and had a coating of dark brown lymph, tinged with yellow, over nearly its whole surface. Eight or ten spots, some as large as a walnut, were in a state of sphacelus; and were reduced to a black, soft, pulpy mass. These, when cut into, gave out a very fœtid gas. The pleura had given way over one of them, and air had escaped; the larger part of this lung was hepatized. The bronchial tubes were of a dark red color. The right lung presented the same appearances, but in a less degree. Only two or three spots were gangrenous, and hepatization had not advanced so far. *Abdomen.*—The mucous coat of the stomach was considerably congested. That of the small intestines in a slight degree; the other viscera were normal.

Remarks.—This case which I have just narrated, is remarkable for the extent of the disease, and the occurrence of hepatization between the gangrenous spots. Both lungs would appear to have been very generally affected with pneumonic inflammation; which being improperly treated, and the constitution having been greatly debilitated by previous excesses, it passed rapidly into gangrene. Hepatization took place over all the spaces between the gangrenous spots. If the vital powers had not been so greatly impaired by a long course of dissipation, the pneumonia would have passed on to its ordinary third stage, viz., purulent infiltration. There would appear not to have been sufficient energy to elaborate pus. It is surprising, too, that there was neither cough nor expectoration. The delirium was the prominent symptom, which made me suppose that the brain was the organ chiefly implicated. Dissection showed congestion of the brain, but not in sufficient degree to have proved fatal. If, instead of exhibiting incoherent muttering and groaning as the prominent symptoms, she had been harassed with incessant cough, accompanied by fœtid expectoration, the case would have been plain enough. As it was, the attention was drawn off from the lungs to the brain. It should, however, be remembered, that fœtor of the sputa alone, is not pathognomic of gangrene of the lungs. It is true, that the breath and sputa, are, in this disease, from the first, nearly as offensive as when the fœtor becomes of the true gangrenous character. This is owing to the depraved condition, both of the fluids and solids. But it is well known, that this state of things often occurs where gangrene of the lungs does not exist. Dr. Elliotson says that the fœtor of the breath and of the sputa, are not to be depended upon. He has seen other diseases attended with extreme fœtor, but without gangrene; and he has seen extreme fœtor of the breath and sputa without any danger whatever. Sometimes in bronchitis, the fœtor both of the breath and sputa will be very great. He mentions the case of a young lady, who was in tolerably good health, except that she spit up a little; and this expectoration was horribly offensive; so that to stand near her was extremely unpleasant; yet she was walking about, and looking well. He saw a case of this fœtor of the sputa, and smelling of the breath, in a person who died of phthisis; and in this disease, the matter formed occasionally has the fœtor of fæces. Dr. Elliotson is of opinion, that there is no danger, necessarily from the extreme fœtor of the sputa; neither is there necessarily gangrene. But if, conjoined with this, the sputa are observed to be bloody, brownish, or greenish—something like the discharge from a sloughing part; and when any thing like green fragments of lymph are seen, together with a weak pulse, an elongated countenance, and a cadaverous aspect; in short, when the patient is in the state in which we see people when they are sinking from mortification of any other part; there can be no doubt of the nature of the disease. It is to be apprehended, that too great importance has been attached to the fœtor of the sputa; and that cases have been pronounced gangrene of the lungs, when in reality this disease was not present.

ART. X.—*Obstetric Cases.* By WILLIAM ZOLLICKOFFER, M.D., Fellow of the College of Physicians and Surgeons of the University of the State of New York, &c. &c.

THE following cases, being of rare occurrence, may not be unacceptable to the medical public. They are not communicated so much on the account of their singularity, as they are to prove that the fœtus in utero may exist and continue in a healthy condition, under circumstances which would readily lead to the conclusion, that death would result from an interruption of the circulation in the umbilical cord, as a consequence of the knots and noose to which it seems occasionally subject, from the motions and convolutions of the child during utero-gestation.

Whether the conditions of the funis, in connection with the following cases, occurred during the first months of pregnancy, and the circulation in the umbilical cord, under such an apparently unfavourable state of things, could have existed for several months, it is difficult to determine. It is, however, evident that neither the children nor mothers seemed to be affected, either in the labours of the latter, or the presentations or health of the former, by these contingencies. They may have existed for some time before the birth of the children, and might have occurred but a short time previous.

The next question which presents itself is, as to the manner in which these anomalies are caused. From the circumstance of the umbilical cords, in *both* of the cases I have witnessed, being *unusually* long, may it not be inferred that, under such a contingency, the ordinary motions of the fœtus in utero could very readily be productive of, or give rise to the knots and noose upon them, at any period of pregnancy?

CASE I. When our sixth son, Spurzheim, was born, the umbilical cord was *unusually* long. It was wrapped around his neck and chest, with a perfectly defined knot upon it. The presentation was natural, and from the commencement to the end of labour the parturient efforts were marked by an unusual degree of regularity. The labour lasted one hour and twenty minutes. The child was rather above the ordinary size; enjoyed good health; is now ten years of age. The circulation in the funis was not interrupted, the pulsations being equally as distinct and uniform as is usual under ordinary circumstances.

CASE II. My esteemed and learned friend, John W. Gloninger, M.D., of Lebanon, Pa., has very recently communicated to me a case that came under his immediate notice, strikingly analogous to the one just mentioned. He attended Mrs. B., who was taken in labour on the 5th of February. "Her labour," says the doctor, "being natural, only lasted about three hours; the funis was around the neck and chest, with *a complete knot upon*

it." And he furthermore remarks, in relation to the case at the time he wrote to me on the subject, "the mother and child are doing well."

Case III. On the 23d of December, 1840, I was called to visit the wife of a poor man; the husband requested me to be in a hurry, as his wife, as he said, "is in labour, and wants you to come directly." I repaired to the house as soon as practicable; found the woman suffering from violent labour pains; proceeded to an examination; ascertained that there was considerable rigidity of the os uteri; took from her twenty-four ounces of blood; made a second examination, when the dilatation had considerably increased, and the os uteri in that state of flaccidity that indicated a favourable and speedy termination of the labour. The presentation was natural, and in forty minutes after venesection, this poor sufferer was delivered of a son. After the head had passed into the world, I found the funis around the neck, and adopted my usual plan to bring it over the head before the labour progressed any further; but in this attempt I was unsuccessful. Neither the child, nor the mother, however, sustained any inconvenience from my not being able to effect my object. After the birth of the child I asked permission to raise the bed-clothes, in order to satisfy myself of the cause that prevented my passing the cord over the head, when I found it also around the chest, and instead of a knot upon it, the funis had formed a complete noose around the left forearm. I tied the cord, divided it, and slipped the noose over the hand of the child.

Middleburg, Md., *May* 25, 1841.

[Examples of knots upon the umbilical cord have been recorded by Delius, (*Diss. de Nodis Veris in Funiculo Umbilicali*, Goett. 1805.) Henckel, (*Medicinische und Chirurg. Beobachtungen und Abhandlungen, &c.*) Mauriceau, (*Obs.* II, 106, 401, 470, *et seq.*) Osiander, (*Beobachtungen über Krankheiten der Frauenzimmer und Kinder*, p. 211, and *Uebersichte, &c., v. Salzb. Medic. Chir. Zeitung.* 1809, i, p. 414.) Riolanus, (*Anthopograph*, l. vi, cap. 5.) Ruysch, (*Observat.* No. 11.) Sandifort, (*Observat. Anat. Path.* l. ii, No. 4, and *Mus. Anat.* i, p. 972.) Saxtorph, (*De Funiculis Umbilicalibus Infantum Vivorum Nodosè Complicatis*, in *Collect. Soc. Med. Havn*, vol. i, No. 2.) Schurig, (*Embyologia*, p. 91.) Solingen, (*Anmerkungen*, p. 733.) Schneider, (*Allgem. Medic. Annalen.* April, 1811, p. 308.) Stuart, (*Diss. de Secundinis, &c.*, 1735.) Tiedemann, (in *v. Siebold, Lucina*, iii, book i, p. 19.) Van Swieten, (*Comment.* vol. xiii, § 1306.) Baudelocque, Smellie, &c. &c.

Dr. Blundel (*Principles and Pract. of Obstetrics*, p. 108) states, on the authority of Mr. Rodgers, that a case occurred in New York, where there were three knots on the funis, and yet injection could be thrown from one end of the cord to the other without difficulty.

Dr. Rigby, in his recent admirable work, (*System of Midwifery*, p. 183,) observes that "*Knots upon the cord* have been mentioned by some authors as a cause of danger to the child shortly before and especially during labour; for the circulation in the umbilical vessels being more or less compressed, the child would either be born dead or in a very weakly state. Experience has however shown that these effects have been much overrated, and that these knots are seldom injurious to the child.* Baudelocque has not only met with single, but even triple and very com-

* In a case of this sort Mariceau says, "Ce nœud étoit extrémement serré; mais cela ne

plicated knots tied tightly upon the cord, and yet the child was not only born alive but remarkably robust and healthy. Circumstances, however, may occur by which the knot is gradually drawn so tight as to destroy the child. Smellie has given a case of this kind; but it is to the late Matthew Saxtorph of Copenhagen that we are indebted for an admirable essay on this subject. The result of his observations coincides with those of Baudelocque, viz., that it rarely proves fatal to the child. The manner in which these knots are formed may be easily imagined; when by chance the cord lies in the form of a ring, and the fœtus happens to float through it, a noose is made, which, when drawn tight by accident, forms a knot."

"The most favourable time for the formation of such knots is in the earlier months of pregnancy, when the quantity of liquor amnii, in proportion to the bulk of the fœtus, is so much greater than at an after period, and when its movements are consequently less impeded. The circulation in the knot will be obstructed in proportion as the knot is drawn closer; if it be merely somewhat impeded, the vessels on each side of the knot will be distended and varicose, and the cord itself, where it forms the knot, from the constant gradual pressure of one fold against the other, will become more or less flattened."*—Editor.]

Art. XI.—*Ligature of Subclavian Artery for the Cure of Axillary Aneurism caused by Gun-shot Wound.* By Josiah C. Nott, M.D., Mobile, Alabama.

The following case contains several practical facts of some value, and may not be uninteresting to surgeons who are called upon to operate for aneurism.

The subject, Mr. Christopher L. Clausel, ætat. 30, is a very respectable gentleman of good constitution and good habits, of Claiborne, Alabama. On the 27th August, 1838, while hunting, he was holding his gun (charged with small shot) by the muzzle; the gun went off accidentally, and the whole load, after passing through the wrist, lodged in the axilla; considerable hemorrhage ensued, both from the wrist and axilla. Dr. Watkins, who was in attendance, found it necessary to amputate the arm above the wrist, three hours after the accident; no artery required ligature, and this fact, with the hemorrhage from the axilla, induced the belief that the axillary artery was injured by the shot.

s'etoit fait seulement que dans la sortie de l'enfant; car s'il eût été long-temps serré de la sorte dans le ventre de la mère, l'enfant auroit certainement peri; à cause que le mouvement due sang que lui étoit nécessaire, auroit été entièrement intercepté dans ce cordon. J'ai encore accouché depuis ce temps la, sept autres femmes, dont les enfans qui étoient tous vivans, avoient pareillement le cordon noüé d'un semblable nœud, qui s'êtoit fait de la méme manière, par l'extraordinaire longueur de leur cordon." (*Obs.* 133.)

* Van Swieten, in his Commentaries on Boerhaave, gives a remarkable instance of its occurring twice in the same patient, so as to destroy the child. "I had occasion to see two instances of the birth of a child in one lady of distinction, where every thing was exactly and rightly formed, only the navel string was, towards the middle, twisted into a firm knot, so that all communication between the mother and fœtus had been intercepted. The umbilical rope seems to have formed by chance a link, through which the whole body of the fœtus passed, and afterwards, by its motion and weight, had drawn the knot, already formed, into such a degree of tightness, that the umbilical vessels were entirely compressed; for when the knot was loosened out, all that part of the navel string which was taken into the knot was quite flattened."—(Vol. xiii, § 1306.)

A slough formed in the axilla, which commenced separating in four or five days. On the twelfth day a hemorrhage occurred from the axilla, and about a quart of blood was lost; it was commanded by compress on the wound. On the next day a hemorrhage again occurred to about the same extent. On the sixteenth day a third and most alarming hemorrhage took place, completely exhausting the patient; a compress was again applied, and the hemorrhage did not return.

On the eighteenth day the slough separated, leaving a cavity as large as an egg, and exposing the ribs; the artery could neither be seen nor felt; the healing process soon commenced, went on rapidly, and by the middle of October it was filled up, leaving only a narrow ulcer an inch long. About this time the aneurismal tumour commenced in the axilla and increased rapidly.

Mr. C. came down to Mobile to consult me, and I saw him for the first time on the 3d of November. On examination I found a large aneurism, filling up the axilla and extending nearly to the clavicle; pulsations strong and aneurismal thrill distinct. I advised tying of the subclavian artery above the clavicle, and performed the operation on the 27th of November, in the presence of Drs. Fearn, Woodcock, and Crawford. No difficulty occurred during or after the operation, and every thing went on favourably. On the twenty-sixth day after the operation, the ligature still remaining firm, I attached to the end of it a gum-elastic thread, laid a small compress on the clavicle, drew the thread over this, and fixed it to the chest by an adhesive strip; it was thus made to exert a constant and gentle force upon the ligature. On the thirty-first day the ligature came away, and had it not been for this contrivance it would probably have remained a considerable time longer; although the ligature was tied so tight around the artery that I could scarcely pass an ordinary sized pin through the loop after it came away.

At the end of forty days the patient returned home with the wound healed, the tumour much diminished, but the pulsation, which returned two days after the operation, was still strong and *purr* distinct.

I saw the patient five months after the operation, and though diminished, there was still so much pulsation in the aneurism, and the *purr* so distinct as to alarm the patient.

I lost sight of the patient until April, 1841, more than two years after the operation, when I had the gratification to see him perfectly well in every respect.

Remarks.—This case proves that the return of pulsation, though strong, and continuing for months, is not necessarily a cause of just alarm. The use of the gum-elastic thread to facilitate the removal of the ligature after a reasonable time is allowed, I think is also important; for the ligature keeps the wound suppurating, and there is always danger of the pus burrowing into parts where it would do mischief. There is a case recorded in the *Medico-Chirurgical Review*, where the ligature remained eighty days.

MEDICAL EDUCATION AND INSTITUTIONS.

ART. XII.—*The Royal College of Surgeons, in London, with an Abstract of the Case of Thomas Tipple.* By PLINY EARLE, M. D.

THE Institution of the Royal College of Surgeons, in London, is probably more extensive and complete than that of any other association of the kind in the world. Their building is situated upon the southerly side of Lincoln's Inn Fields, and its front is decorated with an imposing Corinthian portico. Exclusive of the very extensive museum, the building contains a large lecture-room, a library of many thousands of volumes, and various rooms for the accommodation of the members.

The lectures delivered in the college are conducted with a degree of ceremony which savours of a monarchical government, and which, in the time of Molière, would have brought like a lava torrent upon itself, and upon the profession, the burning satire of his powerful pen. The president of the association enters the hall, preceded by a man bearing a long gilded mace and a rich velvet cushion. The lecturer follows, clad in a richly wrought black silk robe, and having entered, mounts the rostrum. The cushion, with the mace upon it, is placed upon his desk, and the president takes a seat directly in front of him, in a chair specially devoted to the presiding officer. Things being thus arranged, the lecture proceeds as at other places, the lecturer, like the professors in the United States, but unlike those of France, standing while he addresses the audience.

The museum, which is still called the "Hunterian Museum," in honour of the distinguished surgeon who collected the greater part of the specimens therein contained, acknowledges no rival, and indeed no equal. Those of the Royal Colleges of Surgeons in Edinburgh, Glasgow and Dublin, are fine collections, as are those of the Universities of Edinburgh and Leyden, and that of the *Musée Dupuytren* of Paris; whilst the unique and splendid museum of wax casts of the human anatomy, at Florence, far outrival any other in that specific department;—but having reference to the subjects of natural history, physiology, and comparative and pathological anatomy, the Hunterian collection must be acknowledged as pre-eminent above all others.

Having letters to William Clift, the learned and affable conservator of this museum, I went to the college, delivered them, and was invited into his study, where he was engaged in painting a sketch of the skeleton of a fossil animal. He accompanied me through the museum, at this and at subsequent times, and placed my name upon the books, which entitled me to visit it whenever I pleased, while in the city. He also showed me some animalculæ, which have made much noise in the learned world, those which Mr. Crosse pretends to have developed by the action of the galvanic fluid upon a solution of the silicate of potassa. Among things existent, the Museum of the Royal College of Surgeons is, nearer than

any other object, the idol of William Clift; and of beings non-existent, John Hunter, the chief contributor to that museum, possesses the largest share of his affections. He is never weary of conversing upon either the former or the latter. He assisted that eminent surgeon, for years, in the preparation of his specimens, and testifies to the unparalleled industry with which his "master" labored in their accumulation and preservation. He related many anecdotes, illustrative of his habits and of his character.

Hunter was remarkably fond of domesticated animals, and tried a vast number of experiments upon them. Especially was he attached to bees of which he kept some in his garden. He would play with these, and take them up and handle them with impunity, talking to them like children to their dolls, as if they were able to comprehend every syllable that was spoken. Those of which he was most particularly fond, and wished to remember, he marked with paint, upon the wings. He was a stern and unyielding disbeliever in the power and efficacy of animal magnetism. Willing, however, to have its potency tested upon himself, he once submitted to the infliction of the magic "passes" of one of the sapient professors of that wonder-working art. What, under other circumstances, might have been the success of the experiment, we are unable to decide, being prevented from knowing, by certain significant twinges in the great toe of the surgeon, which gave ominous indications of an attack of the gout. These so tortured his body, racked his nerves and engaged his attention, that the potent quietus of the professor became absolutely nullified.

But let us turn from the man, to the monument which he has left behind him. The principal hall of the museum is eighty-six feet long, forty feet wide, and three stories high. It is lighted, exclusively, from the roof. Around the second and third stories there are narrow galleries, four or five feet in width, protected by a balustrade. These are sufficiently wide to accommodate visitors, or others, in examining or arranging the specimens, while, being so narrow in comparison with the hall, they leave the view comparatively unobstructed. The *coup d'œil* of the vast multitude of preparations, most of which are enclosed in glass jars, is probably finer than that of any other museum of the kind.

In the first story, the cases around the sides of the room are devoted to natural history and comparative anatomy, the specimens being arranged according to the classes reptilia, pisces and mammalia, and the several orders which these include. Placed lengthwise of the room, so as to leave a broad aisle in the middle, and a narrower one upon either side, are table-like cases, with glass covers, and drawers underneath the upper compartment. These contain a great variety of dried anatomical preparations, fossils, bones, shells, zoophytes, and miscellaneous curiosities. Between the entrance-door and the last-mentioned cases, stand, on the left, a skeleton of the hippopotamus amphibius, and, on the right, the pelvis, part of the vertebræ of the tail, and the bones of one leg of the Megatherium Cuvieri. Half-way down the hall, and in range with the cases between the aisles, stands, on the right, the skeleton of O'Byrne, the Irish giant, and, opposite to it, on the left, a plaster cast of an Ethiopian. At the lower end of the room, directly in front of the entrance, and facing it, is the skeleton of the elephant that formerly belonged to the menagerie at Exeter Change. These preparations are all elevated upon pedestals from three to five feet in height.

The second story is occupied by a series of preparations illustrative of physiology. The number of these specimens is two thousand two hundred and twenty-three. They are described in three large quarto catalogues, comprising several hundred pages.

In the third story, the first series, which includes six hundred and fourteen preparations, are illustrative of natural history. The series commences with a germinated pea, and extends, from gradation to gradation, through vegetable existence, and, subsequently, through the polypi, echinodermatæ, tunicatæ, acephalæ, gasteropodæ, pteropodæ, cephalopodæ, entozoæ, annelidæ, cirripedæ, crustaceæ, myria-podæ, arachnidiæ, and insectæ. Next follows a series including fish, reptiles, birds and quadrupeds, of which the number exceeds that of the last-mentioned department. These two series occupy one side of the hall. On the other are pathological specimens and preparations of monsters. Of the pathological series, one thousand and eighty-four are numbered and described in catalogues, but a large number remain unmarked. The series of monsters contains between three and four hundred preparations. They are arranged under four divisions—viz: 1st, preternatural situation of parts; 2d, addition of parts; 3d, deficiency of parts; and 4, hermaphrodites. The first of these is subdivided into, (*a*) "without deficiency," and (*b*) "with deficiency."

Besides this principal hall, there are two or three small adjacent rooms, which contain such a number of preparations that, in many places, it would be considered a large collection.

The elephant, the skeleton of which has been mentioned, was killed by musket balls, no less than eighty of which were shot into his head. A caries in his right tusk had, for a long time, subjected him to a periodical pain in the face, which, driving him to madness, rendered him wholly unmanageable. William Clift saw him but a few minutes before he was shot; he was at that time raving from the effects of the periodical pain, and his eyes were red and flashing with fury. In relation to the skeleton of the Irish giant, we may introduce the following extract from the "*Annual Register Chronicle*" for June, 1783.

"Died, in Cockspur Street, Charing Cross, aged only 22, Mr. Charles Byrne, the famous Irish giant, whose death is said to have been precipitated by excessive drinking, to which he was always addicted, but more particularly, since his late loss of all his property, which he had simply invested in a single bank-note of 700 pounds (sterling.) Our philosophical readers may not be displeased to know, on the credit of an ingenious correspondent, who had an opportunity of informing himself, that Mr. B., in August, 1780, measured 8 feet; that, in 1782, he had gained two inches, and, after he was dead, he measured 8 feet 4 inches."

No other member of the family of this remarkable man was of an extraordinary size. The skeleton measures upwards of eight feet in height, the tibia alone being twenty-one and a half inches in length. By the side of this *lusus naturæ*, and upon the same pedestal, is another equally remarkable for the opposite extreme of development. It is the skeleton of a dwarf female, named Crachami, who was born near Palermo, in Sicily, in 1814, and subsequently exhibited in London and other places. She died in 1824. Sir Everard Home, in his lectures on comparative anatomy, holds the following language in reference to this extraordinary girl:

"An Italian woman, twenty years of age, when, by her reckoning, three months gone with her fourth child, was travelling in a carriage, with

the baggage of the Duke of Wellington's army, on the continent. In the middle of the night, in a violent storm, when she had fallen fast asleep, a monkey that had been chained on the *top* of the caravan, in its fright, found its way *into* it, and, as the warmest berth it could find, got under her loins. Half asleep, she put her hand down to scratch herself: but, scratching the monkey, it bit her fingers, and threw her into fits. She did not miscarry, but went her full time. The child, when born, only weighed *one pound*, and measured *seven inches* in length. It was reared with difficulty, and was carried by its parents to Ireland, where it became consumptive. It was brought to London and shown as a curiosity, and died just after it completed its ninth year. I saw it several times while alive, and it came into my possession after death. Its skeleton is preserved in the museum of the College of Surgeons, in London, and measures 21 inches (in height).

"Upon examination of the body after death, the fontanelle was found closed. There was no fat in any part, but in the sockets of the eyes, behind the balls. The uterus had not been developed beyond that contained in a fœtus of four months; the bladder was distended with urine, to the size of a hen's egg. As the child had never made water freely from its birth, the bladder had probably been injured at the time the monkey alarmed the mother.

"On comparing the ovaria with those of an abortion at three months, they were nearly of the same size. The child, when I saw it, could walk alone, but with no confidence. Its sight was very quick, (it was) much attracted by bright objects, delighted with every thing that glittered, mightily pleased with fine clothes; had a shrill voice, and spoke in a low tone; had some taste for music, but could speak few words of English; was very sensible of kindness, and quickly recognized any person who had treated it kindly. The mother has had a fifth child in Ireland, which, like her first three children, is naturally formed."

The thoracic duct was comparatively large, and contained no obstruction. Hence, the deficiency of growth could not have arisen from an impossibility of the chyle to pass into the circulation. It is suggested that the distension of the bladder might have been caused by the irritation of a large blister which had been placed upon the abdomen. Neither the carpal bones, nor the patellæ present any traces of ossification, and the calcis, astragalus, and cuboides are the only bones of the tarsi which are ossified. The cartilages still exist between the several portions of the sternum, and of the pelvis. All the epiphyses remain unossified. The teeth and the bones of the cranium are perfect.

Under a large bell-glass standing upon the same pedestal with the skeleton of the elephant, is a dry preparation of a remarkable case of exostosis, or osteo-sarcoma, of the tibia. This was presented to the College in 1807, by William Long, Esq., and, according to his account, consists of "the original bones described in Cheselden's *Osteographia*, and figured in table 53, figures 1, 2, and 3." The amputation was performed by Jeremiah Pierce, a surgeon of Bath, in 1745, and a history of the case is recorded in the Philosophical Transactions, No. 452, p. 56. "Upon taking off the limb," says the surgeon, "I found it weighed, with the leg and foot, sixty-nine pounds, which, to the best of my remembrance, is twenty-seven pounds more than the leg, some years since taken off at St. Bartholomew's Hospital, by Mr. Gay, for the like disorder." The substance

of the tibia is nearly destroyed by the exostosis, and the fibula is altered in shape by the pressure of the tumour of the other bone. The tumour, or the osseous part of it, which alone remains, presents the porous, spongy, honeycomb-like appearance peculiar to tumours of this description. Its diameter is, perpendicularly, ten inches, laterally twelve inches, and antero-posteriorly nine inches.

Upon the same pedestal there is a frame enclosing a picture of the anterior and of the posterior portions of the body of a patient who recovered from a wound of such severity as, *à priori*, would have been believed to be fatal. The following is a brief history of the case.

John Taylor, a Prussian, aged 20, in May, 1831, was employed in the early part of that year, on board the brig Jane, of Scarborough. On Saturday, February 6th, the vessel lying at the time in the London docks, he was at work on board, and, while guiding the pivot of the trysail mast into the main boom, the tackle gave way, the pivot struck and penetrated his breast, traversed the body in an oblique direction, and coming out behind, entered the deck. The trysail mast which drove this pivot through his body, was thirty-nine feet long, and weighed about six hundred pounds. The pivot, which is still preserved in the museum, is blunt, one inch in diameter, and but five inches in length. This entered the thorax on the left side, near the sternum, in the region of the cartilages of the third and the fourth ribs, and came out at a point between the tenth and eleventh ribs, a little anterior to a perpendicular drawn from the lower angle of the scapula. Upon comparing the distance between these two points, it will easily be perceived that the body must have been compressed to an inordinate degree to permit the iron to pass through, and even to enter the plank of the deck. The patient received several other injuries at the same time. His scalp was laid open, and his lower jaw and four ribs fractured. He was carried to the London Hospital, where, under the care of John Andrews, he was so nearly cured, in the course of five months, that he walked from the Hospital to the College of Surgeons and back again. He ultimately returned to his occupation as seaman. During his confinement, portions of the fractured ribs and jaw exfoliated.

In June, 1837, a few days previous to my first visit to the College of Surgeons, Taylor, being in port, called upon William Clift to let him know that he enjoyed perfect health.

Another preparation upon the pedestal, with the skeleton of the elephant, is that of the anterior parietes of the thorax of a man, whose case, being one of the most remarkable upon record, I shall give somewhat in detail, though very much abridged from the original, which was drawn up by J. W. Parkinson.

Thomas Tipple, arriving at the house of John Overton, at Stratford, near London, on the evening of the 13th of June, 1812, and the groom being absent, took off his coat and began to unharness the horse. Being undoubtedly not very well versed in the trade of an ostler, he commenced by taking off the bridle. This being removed, the horse sprang forwards, and the end of one of the shafts of the gig struck Tipple upon the left breast, pierced the parietes, traversed a portion of the thorax, came out upon the right side, and penetrated the sheathing of the house. The first persons who arrived upon the spot, after the accident, were Edward and Henry Lawrence. They testify that they found him standing upon

tiptoe, with both his arms extended. Although thus completely impaled, he was able to put his hand upon the end of the shaft and assist in drawing himself off. Being released, he respired two or three times without difficulty, and there was no inordinate agitation of the body. The wound did not bleed very freely, and the patient went into the house, took off his vest and walked up two flights of stairs. He was undressed, when there was a tendency to syncope, and "the trickling of blood upon the lungs" caused a difficulty of respiration. He sat in his bed until, upon being bled, that difficulty was relieved. The venesection was prescribed by William Maiden, a surgeon, who was called about nine o'clock. He found a hemorrhage from the wound on the left side of the thorax, made by the iron on the under side of the shaft of the gig. Air was also issuing from the wound, indicating a severe lesion of the vesicles of the lungs. The quantity of blood taken from the vein was about four pounds avoirdupois. The patient was permitted to drink a little cold water. At eleven o'clock, Sir William Blizzard arrived, and upon an examination of the patient, found the wounds to be each about four inches in length, while the left shoulder and chest were slightly emphysematous. Anticipating a reaction of the circulation, which he presumed would be hastened by the venesection, and which might occasion a profuse hemorrhage from the wounds, he prognosticated a fatal termination before morning.

June 14, eight o'clock, A.M. The patient was in nearly the same condition as when left on the previous evening. He obtained some sleep, and cold water was given to prevent hemorrhage. At noon on this day, Sir William Blizzard ordered an infusion of roses, with one drachm of the sulphate of magnesia, to be taken at intervals of six hours.

15*th*. Eight o'clock, A.M. Dyspnœa increased; considerable pain, and a sensation of weight and of soreness about the thorax. Venesection to the extent of thirty ounces produced much relief. Later in the day, there was some nausea and a sensation of fulness of the stomach and bowels. An enema and castor oil were administered in the evening, and five grains of calomel at bedtime.

16*th*. Eight o'clock, A.M. The calomel operated gently two or three times. The patient restless, and vomiting frequently; a pain in the region of the diaphragm; soreness of the chest, and difficult respiration. Eighteen ounces of blood were taken from the arm, and the enema repeated. In the afternoon the emesis continued, but the dyspnœa was relieved; hiccups had commenced, and these, with the vomiting, were overcome by the effervescing draught; at night the patient appeared to be very near the close of life.

17*th*. He passed a better night, obtaining more sleep than heretofore. The soreness and dyspnœa having increased, they were mitigated by the abstraction of seventeen ounces of blood from the arm.

18*th*. The breathing very laborious, but it was made easier by another depletion of twenty ounces of blood. Still, however, a tenderness of the chest and epigastrium remained. Calomel had been administered every evening hitherto, and had operated freely; it was ordered to be continued, with the occasional addition of Epsom salts and senna, and a large blister was placed upon the sternum.

19*th*. The aperient was continued.

20*th*—*Evening*. The dyspnœa was so great as to induce a resort to vene-

section; nineteen ounces of blood were taken. This day several threads of flannel were seen in the wound under the right arm. They remained there several days afterwards.

21*st*. The aperient was continued, and the patient permitted to eat a small quantity of broth.

22*d*. The pain and difficulty of respiration were less than at any previous time, but there was a "peculiar sensation" about the chest. "Sir William Blizzard advised the abstraction of more blood," but we are not informed how much was taken, or, indeed, whether the advice was followed by the abstraction of any. The patient sat up in his bed for the first time, and his shirt and flannel waistcoat, which had become offensive, were removed. The wounds were examined, and it was found that there was no injury of the back, not even to a discoloration of the skin. The physicians were now convinced that the spine had escaped unharmed, yet they thought the internal injury so extensive that the patient could not recover. It was impossible to conceive how the lungs had escaped. At this time a sensation of smarting was felt along the course of the wound. A blister larger than that previously applied, was placed upon the sternum; the bowels were frequently moved by purgatives, and fourteen ounces of blood were taken from the arm; this was the last resort to venesection.

28*th*. There appeared to be a reasonable hope of recovery.

Subsequently to this date, the aperients were continued, and the blister kept open several days. For eight or ten days there were indications of inflammation of the liver, and insomnia at night, to which there was a tendency, was prevented by opiates. At the end of nine weeks the wounds were nearly closed.

After the cure was effected, there was a depression of two or three of the costal cartilages of the left side, causing a concave cicatrix near the fifth rib. The cicatrix of the right side was somewhat lower.

Sir William Blizzard commends Mr. Maiden for forbearing to use either a probe or his finger, in the examination of the wounds, and adds: "Many lives have been sacrificed to the gratification of curiosity, by researches into the direction and extent of wounds in the body."

Tipple was thirty-four years of age when he received this remarkable wound. His digestion, at the time, was impaired, but it was much improved after his recovery. His general physical strength was less after the accident, and there remained a soreness of the chest and a liability to difficult respiration upon making any inordinate exertion. During the first five years immediately following his recovery, it required less exercise than formerly to put him "out of breath." His health, however, became impaired by gout and rheumatism, and near the termination of this period, J. W. Parkinson was called to him. He found him suffering from dyspnœa; his countenance expressed anxiety; pulse irregular; heart struggling. A copious venesection produced relief. On the next morning there was a recurrence of the same symptoms, which were again met by depletion from the circulation. The patient improved immediately, and soon attended to his customary occupation. At subsequent periods, however, he had other attacks, which were generally induced by bodily or mental exertion, irregularity of diet, or exposure. He was treated by bleeding, purgatives, digitalis, blisters, low diet and rest. These attacks became more frequent during the last two years of his life. In one of them mercury was employed until it produced a slight ptyalism, and this

remedial agent, with digitalis and bleeding, was the only curative means resorted to in several of the last attacks.

About six weeks before his death, having been exposed to the night air he was attacked with inflammation of the mucous membrane of the lungs, accompanied by dyspnœa, uneasiness of the upper portion of the thorax, cough and expectoration of a glairy mucus. Ten days before his death, his legs and thighs, which had been œdematous, became suddenly reduced, by an absorption of the liquid. He lost his strength, became pallid, and suffered so much from dyspnœa that he was bled about a week previous to his decease. Relief was obtained, but the action of the heart became feeble, and great distress was depicted in his countenance.

Sunday, March 2, 1823. He was assisted in going down stairs, when, upon attempting to speak, his voice failed and he suddenly expired.

Autopsy, March 4. *Thorax* distorted anteriorly. There is an angular projection at the union of the superior and middle portions of the sternum, and a depression upon either side of that bone. That on the left is the larger; it commences four and a half inches from the middle of the sternum, and extends forwards in the intercostal space between the second and third rib, the distance of three inches. That on the right begins three inches from the middle of the sternum, and extends backwards two inches between the second and the third rib. On the left side, behind the margin of the pectoralis major muscle, are two cicatrices, the larger of which is one and a half inches in diameter. Between the third and the fourth rib of the same side, and adjacent to the place at which the tug iron probably entered, there is an external depression, as if made with the end of the finger. The integuments being removed, there appears to be no injury except on the anterior surface. The pectoralis major and minor muscles are both atrophied. The latter covers and adheres to a membranous substance one and a half inches long and one inch wide, occupying the space between the second and the third rib on either side. In these spaces there are no vestiges of the intercostal muscles. The lung is visible through the membrane, which is composed of two laminæ surrounded by condensed cellular tissue. This tissue is connected, by fascia-like bands, to the surrounding intercostal muscles.

The cartilage of the second rib is fractured in the middle, and the ends of the two portions are a quarter of an inch asunder, but connected by an intervening ligament. The rib, also, has been fractured two and a half inches posterior to the division in the cartilage. This piece of rib is turned upon its axis, so that the inferior edge is inward and upward, and has become similar to the inner and superior edge of the posterior portion of the rib. It thus forms a projection of half an inch in the interior of the thorax. The external depression is three-eighths of an inch in depth. The cartilage of the third and of the fourth rib are fractured and united by ossification. That of the third is a little curved. *The space closed by a membrane*, and one inch in diameter upon the right side, is circular. The third rib is fractured, its sternal portion is diminished, and its superior edge is one-eighth of an inch lower than that of the spinal portion. The angular projection, near the upper part of the sternum, is caused by the first and second divisions of the bone being severed and turned outwards, so as to form an obtuse angle, at a point between the cartilages of the first and the second rib. The disunited ends are enlarged and connected, externally, by a ligament which admits of a slight motion.

The lungs adhere to the pleura posteriorly. On the right side there is more than an ounce of serum in the cells of the adhesion. On the left side, anteriorly, the lung adheres to the inferior part of the displaced portion of the second rib, and to the internal surface of the membrane which encloses the space devoid of muscular fibre.

The lungs are dense and of a deep livid color. A small part of the lower lobe of the left lung is entirely normal. The right lung adheres to the membrane heretofore mentioned, as well as to the surrounding parts, to an extent of one and a half inches in diameter. The rest of the anterior portion presents no pathological appearance.

The pericardium is attached to the heart throughout nearly the whole of its surface. The adhesions are easily broken. There is nearly a teaspoonful of fluid in the cavity and near the apex of the heart.

The heart is augmented in volume, the right auricle being more so than either of the other cavities.

The abdominal and pelvic viscera are normal. It is found that the wounds in the integuments do not precisely correspond with those of the parietes. This position of things undoubtedly facilitated a cure, and was probably owing to the fact, that the arms were raised at the moment of the occurrence of the accident.

The preparation now preserved in the museum consists of the anterior parietes of the thorax, including the sternum and the sternal half of the first five ribs. The whole of the cicatrices and other deformities are thus exhibited. The extremity of the shaft which inflicted the wound is also preserved in the museum. It penetrated the body to the distance of twenty-one inches. The portion of that length is five inches in circumference, in the middle, and six at the larger extremity. The tug-iron underneath is three and a half inches in length. This undoubtedly entered the lungs.

The autopsy was performed under the direction of Sir William Blizzard by W. B. Harkness and William Clift, assisted by J. W. Parkinson.

REVIEW.

ART. XIII.—*The Library of Practical Medicine. A System of Practical Medicine, comprised in a series of original dissertations.* Arranged and edited by ALEXANDER TWEEDIE, M.D., F.R.S. &c. &c. *Diseases of the Digestive, Urinary, and Uterine Organs.* 8vo. pp. 516, Philadelphia: Lea & Blanchard, 1841.

THE pages of the present volume are devoted to the consideration of several classes of diseases, which have received very unequal attention from those who were engaged in the investigation of the laws of the economy in health and in a morbid condition. While some of them have been the subjects of study and inquiry from the earliest times, others, as those of the urinary and uterine organs, are indebted almost exclusively to the patient research of medical men during the last few years, for the advanced state in which their history has been placed, and which the dissertations we are about to examine, fully manifest. At the same time, the new facts which have thus been brought to light, are scattered through so many treatises, and are encumbered with so much foreign matter, that it is impossible for the student, or for those engaged in the full practice of their profession, to trace their relations, or even, in many instances, to inform themselves of their existence. We cannot, therefore, but welcome with satisfaction, a work in which they are grouped together in a clear and perspicuous manner, and which places before us under the sanction of distinguished names, as concisely as is consistent with distinctness, the exact state of knowledge in the matters treated of.

In the previous volume, the history of the diseases of the organs of circulation was commenced by Dr. Joy, but the examination extended to those only involving the heart and its investing membrane. The subject is here resumed, and the volume opens with several chapters relating to the diseases of the arteries and veins, thus completing the series of able papers upon the affections of the circulatory organs.

In the first chapter we are presented with an account of the functional disorder of the arteries, namely, neuralgia, and inordinate abdominal pulsation: which last, in the very great majority of cases, is altogether independent of organic disease in the aorta or large trunks proceeding from it, but is rather a symptom of disease in the neighbouring organs, and is, therefore, to be treated as such.

The history of arteritis follows, with a careful exposition of what may be considered its anatomical characters, and a caution against confounding the cadaveric redness so often met with in the arteries, with that resulting from disease. Other morbid appearances are noted, though it is doubtful whether they are all the results of acute or chronic inflammation; such as white cartilaginous patches, proved by M. Bizot to originate from the albuminous concretions of acute arteritis, and finally to supplant the membrane upon which they were at first placed; the yellowish atheromatous patches in the aorta and larger vessels, at first minute granules between the middle

and inner coats, gradually increasing and coalescing, finally ending in ulceration or ossification, thus weakening the coats, and causing rupture or aneurism; and a species of chronic softening of the inner coat, which may end in its laceration, rolling up, and consequent obliteration of the calibre of the vessel. The diagnosis of arteritis cannot be unequivocally established, and it is only by negative signs that we can for the most part arrive at any probable suspicion of its existence when it occupies the interior of the body.

The subject of the next chapter is aneurism of the aorta, which is introduced by a concise and perspicuous account of aneurisms in general, their nature, causes, symptoms, and results. Among "the predisposing causes," says Dr. Joy, "one of the most influential, as has been remarked by Mr. Guthrie, (and our own experience is quite in unison with the observation,) is the inordinate use of spirituous liquors, by which apparently a sub-inflammatory condition of the coats of the vessel is induced, leading to their gradual softening and disorganization, whilst at the same time the force of the heart's contractions is inordinately increased to such a degree, that the weakened artery is no longer capable of sustaining them with impunity."

Aneurism of the aorta is then considered with reference to its situation within the thorax and within the abdomen. The means of determining its existence, and of distinguishing it from other affections, and more particularly, from affections of the heart, are very carefully and fully examined, while it is confessed that there is no positive evidence upon which we can rely until the disease has progressed so far as to have given rise to a tumour of considerable size:

"As regards the treatment of this affection, it is remarked that 'the voice of the judicious part of the profession, and of nearly all those who have of late devoted their attention more particularly to the treatment of cases of internal aneurism on a large scale, is, we think, at present, decidedly adverse to the propriety of enforcing the rigid plan of treatment practised by Valsalva and Albertini, except, perhaps, in individuals of a very robust constitution.' 'In aneurism of the aorta, an extremely lowering system is generally found to do more harm than good, by inducing arterial reaction, or a nervous and irritable state of the constitution incompatible with healthy reparatory action in any part of the system, by weakening the coats of the artery, as well as by giving rise to a thin watery condition of the blood, by which even the existing laminated concretions, so far from being augmented and consolidated by plastic lymph, are apt to get detached and washed away, one great bulwark against fatal rupture being thus speedily removed.' 'It appears incontestable, from several cases recently published by the most competent observers, that a tonic treatment, along with a reparative and rather generous diet, is in many instances much more applicable than the opposite.'"

Having examined all the diseases of the arteries, which belong properly to medicine, Dr. J. next proceeds to a consideration of the veins. After a few short preliminary observations on their general character, and the functional disorders of the veins, the subject of phlebitis is taken up and a condensed and rapid sketch of all the facts connected with this inflammation, either as the cause or consequence of disease in other organs, its anatomical characters, its connection with phlegmasia alba dolens and its treatment, is presented to the reader, who will be more inclined to regret its brevity than to find fault with its matter. As regards phlegmasia dolens, Dr. J. is inclined not to ascribe an exclusive influence to the veins in producing this disease, and believes that they are only implicated in com-

mon with or even subsequently to several other tissues, more especially the subcutaneous cellular tissue, the inferior surface of the cutis vera, and the superficial nerves: and for this he assigns several reasons, such as the mode of origin of the affection; beginning always in the upper part of the limb, the neuralgic tenderness of the surface, the tense and elastic swelling, the type of fever so dissimilar to that in indisputable phlebitis, and the lower rate of mortality compared with that in the last.

Two short chapters, one on varicose veins, and the other on miscellaneous affections of the veins, such as their spontaneous perforation and laceration of their valves, obliteration of their cavity, &c., terminate this portion of the volume before us, and complete the history of the diseases of the organs of circulation.

The diseases of the organs of digestion are next considered, and occupy a space of 254 pages. The account of those relating to the mouth, throat, and alimentary canal generally, is from the pen of Dr. Symonds, of the Bristol General Hospital, with the exception of one chapter on diarrhœa, by Dr. George Budd: that part which treats of the organs external to the alimentary canal, but concerned in the process of digestion, and a chapter relating to the disease of the spleen, are the work of Dr. Wm. Thomson.

These different classes of disorders are examined in the order in which they are mentioned, and a concise and compendious account of these very interesting and important complaints is given.

Beginning with the affections of the mouth, we have presented to us an account of its different forms of inflammation, the aphthous, mercurial and ulcerous: this last is distinguished from a peculiar malignant disease, called gangrene of the mouth, which is considered by the author as an idiopathic affection, arising in young children of a debilitated habit, and living in unhealthy or crowded situations, or as one of the sequelæ of exanthematous diseases, and "gangrenous *ab origine*, any inflammation that may be found about the part is secondary only, bearing no causative relation to the gangrene." Both Dr. S. and the American editor agree that it cannot be attributed to the special action of mercury, though this may favour its development, especially when there is an epidemic tendency to the affection.

The diseases incident to the process of dentition are next briefly described under the heads of local symptoms, and remote affections, among which are included the derangements of the mucous membranes, of the skin, of the nervous system and febrile affections.

Inflammation of the tongue, the specific and common inflammation of the parotids, and angina, or inflammation of the throat are appropriately noticed in the three next chapters. Of these, the angina membranacea, or the *diphtherite* of Bretonneau, is more particularly dwelt upon, and attention is directed to that form, which beginning insidiously and rapidly extending its false membranes over the fauces, and into the air passages, is attended with a low and malignant type of fever, and would appear to be contagious in its nature. Its peculiar and fatal character, and the fact "that there is frequently observed an erythematous or papular eruption on different parts of the body," cause "little difficulty in arriving at the conclusion that it is a variety of scarlatina maligna." We quite "coincide with Dr. Tweedie, in the *Cyclopedia of Practical Medicine*, art. SCARLATINA. 'We are inclined,' he observes, 'to affirm that the scarlatina simplex, scarlatina angina, and the scarlatina or angina maligna, and the sore-throat without efflorescence on the skin, are merely varieties of one and

the same disease.' It is scarcely necessary to add that the *sore-throat* here alluded to, is that which presents the same characters as are observed in cases where there is also the cutaneous affection."

A short chapter on the diseases of the œsophagus, which are generally of a chronic character, leads to the consideration of that important and much vexed subject, gastritis. After a condensed, but very clear description of the anatomical characters of congestion and inflammation of the gastro-enteric mucous membrane generally, and of the means of distinguishing these appearances from that of a physiological or cadaveric nature, an excellent detail is given of the symptoms, peculiar anatomical character, cause and treatment of the acute, sub-acute and chronic forms of inflammation. The last we are cautioned against mistaking for dyspepsia, which is considered as a purely functional disorder, and the mode of distinguishing the two is briefly pointed out. Much space is given to the consideration of the treatment, particularly of the chronic form, and the following, as it appears to us, very judicious language, is used respecting leeching.

"We are persuaded that one of the most frequent mistakes in practice is to apply leeches in too large a number in cases of gastritis; the consequence of which treatment is to exhaust the strength of the patient by the quantity of blood lost, before there has been time for reducing the morbid action in the stomach by the revulsive agency of the remedy, as well as to prevent its repetition. We believe that it is seldom necessary to apply more than six at a time, and sometimes three or four suffice. They may be applied daily for three or four days, or even a week, according to the strength and the degree of pain; and afterwards twice or thrice in a week."

Carcinoma, softening, ulceration and perforation of the stomach are each concisely treated in the next four chapters, and we then come to a consideration of the functional derangements of this important organ, viz., dyspepsia, gastralgia and gastrorrhœa. Preliminary to the account given of dyspepsia, are some excellent general observations on the sources of the functional disorders of the stomach, which are traced to the large quantity of blood distributed to it, and its intimate sympathy with other organs, for which it is indebted for its liberal endowment of nerves, and in consequence of which it is believed that it receives scarcely less injury than it distributes. The increasing prevalence of gastric complaints is, as it appears to us, justly attributed to the condition of the "nervous system, which, in the respective classes of the community, the unnatural hours, the enfeebling luxuries, the toil and excitement of the intellect, the commercial anxieties, the struggles of men, *solicitè ambientes*, *callidè litigantes*, or of others who, in a redundant population, subsist only by the most ardent and emulous exercise of their inventive faculties, are constantly perturbing and paralyzing."

Dyspepsia is then considered under these forms; two acute, the *embarras gastrique* of French authors, and the other under the name of *bilious seizure*, occasioned by the regurgitation of bile from the duodenum into the stomach; and a third, a chronic attack, and by far the most important.

This last, as was before mentioned, is considered as a purely functional disorder, uncomplicated with any structural alteration, or with appreciable permanent disease of the capillary circulation. The following is considered to be the pathology of the affection.

"We may reasonably infer that the fault is due, either to an insufficiency or

to an impairment of the gastric juice, with or without an atonic condition of the muscular fibres of the stomach; gentle agitation of the food, its easy solution and gradual propulsion towards the pylorus, are the chief requisites for healthy digestion; and it is therefore obvious that changes in the gastric secretion, and irregular contraction or weakness of the muscular coat, may, together or singly, so disturb the process as to give rise to the symptoms of dyspepsia." "An anemial condition of the mucous membrane may cause this deficiency of the gastric juice, or even a state of congestion may be suspected." "The physiology of the nerves of the stomach is not in a settled state, but there is every reason to believe that disordered innervation of this organ plays a very important part in the pathology of dyspepsia."

To this view of the pathology, follows an elaborate and excellent account of the proper medical and dietetic treatment, and the chapter is ended by a notice of the influence of gastric disorders upon other organs. Gastralgia and gastrorrhœa, or those cases of functional derangement of the stomach, in which ejection of the mucus or other secretion by vomiting or eructation is the predominant symptom, are next briefly studied, and close the account of the diseases of the stomach, which are throughout carefully and adequately described.

Descending along the alimentary canal, the next disease presented to the reader is inflammation of the duodenum; which, whether in its acute or chronic form, is very difficult of diagnosis, its symptoms being almost entirely referrible to those of affections of the stomach or liver. It is remarked by Dr. Gerhard, that no portion of the alimentary canal is so frequently in a sound condition on post mortem examinations. A form of duodenal dyspepsia, described by Dr. W. Philip and Dr. Todd, is also noticed briefly, and seems to answer to what is commonly called hepatic derangement, bilious disorders, &c.

"The jejunum," it is remarked, "is not, so far as we know, liable to primary disease, and even enjoys a singular degree of immunity from secondary complications." Inflammation of the ileum and colon are treated of under one head, ileo-colitis, because inflammation rarely attacks the former without extending to the latter, though the converse is not equally true. It is the enteritis of many authors. The acute form is very rarely observed, except as complicated with the follicular inflammation of typhoid fever, and indeed as is remarked in a note by Dr. Gerhard: "Acute ileo colitis hardly occurs as a primitive disease. It is true that in severe cases of dysentery, the inflammation extends from the colon, which is the primitive seat of it, to the lower portion of the ileum, and involves both the follicles and the surrounding membrane. But the ordinary cause of ileo-colitis is typhoid fever, and in that case the follicles are primitively attacked, and the intervening membrane escapes entirely, or at least is but slightly inflamed. Hence we rarely see the acute form of the disease, except under these two forms." Such being the case, in severe forms it is difficult to say whether we have before us an attack of ileo-colitis or of typhoid fever, to judge by the symptoms, and indeed it is not very important in practice, for the treatment would be the same. The chronic form, of which diarrhœa is the most prominent symptom, is often complicated with phthisis and carcinoma of the pelvic organs, though it may be simple and the result of an acute attack. Indeed it appears very difficult to draw the line in this affection on the one hand, between it and typhoid fever, or chronic dysentery—and on the other, or when the disease is light in its nature, between it and simple diarrhœa, yet our author does make the distinction, though perhaps not very clearly.

Colitis or dysentery is the subject of the next chapter, a full and sufficient account being given of its ordinary forms, while the reader is referred to the works of authors who have written on the disease of tropical climates for its more serious and malignant nature, when met with in malarious districts. Such is very generally its character in many portions of the United States, and the omission has been supplied by a description of its anatomical characters and symptoms, and by a detail of the principle that should govern its treatment when met with in such districts, from the pen of Dr. Gerhard, which greatly enhances the value of the account.

A short notice of inflammation of the cœcum, is followed by a chapter on diarrhœa, in which its various forms are separately alluded to and their appropriate treatment pointed out. Cholera, under its two heads, sporadic and malignant, is next presented in a clear and extended account. The malignant or Asiatic variety is traced through all its wanderings from India in 1817, throughout the world, and nothing is left out that could tend to elucidate its history, nature or treatment. It is one of the most elaborate and interesting chapters in the volume, and is compiled from the works of the best authors on the subject.

Organic diseases of the intestines come next into consideration, though no extended notice of them is given. These are tuberculous disease and carcinoma of the intestines, and a non-malignant stricture of the colon, of which several forms are described. Alvine concretions and fatty discharges from the intestines to which, of late, attention has been attracted by Drs. Bright, Elliotson, and Mr. Lloyd, are the subjects of two short chapters.

An excellent description of hæmorrhois, including the hemorrhage, which occurs at the termination of the rectum, and the tumours on which it frequently depends, but which may exist without causing discharge of blood, is followed by a comprehensive and perspicuous account of spasmodic stricture of the rectum, which, from the constipation and extreme difficulty in passing the evacuations attending it, is liable to be mistaken for a permanent stricture of the part. The symptoms, method of diagnosis, and plan of treatment, are each examined with some care.

As to the pathology of colic, our author maintains the opinion that, setting aside the cases in which mechanical obstruction has been ascertained, the disease is occasioned by a combination of two causes, namely, a spasmodic contraction of the muscular fibres in one part so as to resist the passage of the contents, and a loss of muscular power in another part, which prevents it from taking a share in the propulsive action. In this he differs from Dr. Abercrombie, who conceives that the latter condition alone is the efficient cause of ileus; rejecting altogether the idea of spasm, which is not of course observed after death. The probability is, that the former opinion is the correct one, and that the true pathology of colic embraces both spasm and paralysis. Several forms of this disease are mentioned, and more particularly lead colic, to which a chapter is devoted. The prominent symptoms of this latter affection, namely, intense pain in the abdomen and obstinate constipation, certainly ally it strongly with colic generally; but its pathology is very uncertain.

"The prevalent opinion of the present day is that the disease is of a neuralgic nature. The wandering pains, and impaired action of the voluntary muscles, the occasional spasm of the organs of respiration, and the termination of the disease in convulsions and apoplexy and palsy, intimate that the poison acts directly upon the nervous system, and more especially upon the spinal marrow."

Torpor of the colon, and tympanitis, are both described in separate chapters, and the subject of diseases affecting the alimentary canal, is closed by a long and elaborate account of peritonitis, and a short chapter on enteralgia. The different forms of peritonitis, such as simple, erythematic, puerperal, &c., are separately described, the reader being referred to the article on PUERPERAL FEVERS, for an account of the latter form. We have only room to advert to the point in the treatment of acute peritonitis, upon which Dr. S. lays much stress: that is upon the use of mercury as an adjuvant to antiphlogistic measures.

"From the time," he observes, "the case comes under treatment, mercury should be exhibited in such quantities, as will bring the system under the influence of this agent, should it become necessary to do so. We have often had reason to regret that the decisive administration of this remedy had been deferred until the treatment by bloodletting and other means had proved unsuccessful, and that in this way much valuable time had been lost, whereas, if the mercury had been given at regular intervals from the commencement, a comparatively slight increase of the doses, or their more frequent repetition, could have effected our purpose, and, on the other hand, if the disease had yielded to other measures, we might have discontinued the use of it before the specific effects were developed. *Experience, therefore, has long taught us to begin at once the employment of mercury in every case of acute inflammation, which may in its course require the operation of this remedy, and not to wait until the necessity for it becomes manifest.*"

To such a doctrine as that contained in the words we have italicised above, we conceive that at the present day there would be few consenting voices. In the disease under consideration, running on so rapidly as it sometimes does to a fatal termination, it may be, and, no doubt, is very proper to act upon this suggestion. But it can hardly be deemed right, to commence the treatment of an acute pneumonic or pleuritic attack, for instance, with mercury, before we had ascertained whether it was not susceptible of relief from the use of other means, simply because it *may* be required. The plea, "that if it does no good, it cannot do any harm," would hardly authorize, we conceive, such a course;—indeed the general experience now is, that all simple uncomplicated attacks of acute inflammatory disorders, in previously healthy individuals, are amenable to very simple treatment, and it would certainly, as a general rule, be, at least, unwise, to complicate this by introducing remedies, which at best should be used only when the more ordinary means have failed.

We now come to the diseases of the glandular structures connected with the digestive functions, which are all thoroughly and carefully examined by Dr. Wm. Thomson, in the pages before us.

Of these, the diseases of the mesenteric glands are first described, under the head of simple acute inflammation, met with in certain forms of fever, and corresponding with disorder of the glandular follicles in the intestine, of their tubercular, calcareous and osseous degeneration, and of induration. Of these, the scrofulous or tubercular affection is the most common and important, and is commonly known under the name of *tabes mesenterica*, and in French treatises, of *carreau*, of which an admirable account is given by M. Guersant, in the *Dictionaire de Médecine*, from which Dr. Thomson acknowledges his having freely borrowed. The account before us is one of the most perspicuous chapters in the volume, and it affords an excellent monograph of the disease under consideration.

Before entering upon a study of the diseases of the biliary organs, seve-

ral pages are devoted by our author to a general view of the causes in which they are known to originate; these are classed and amply discussed under the heads of atmospheric heat, rich and stimulating diet, bodily inactivity, external injuries, alcoholic liquors, (of whose influence some doubt is expressed,) the use of mercury, foreign matters circulating in the blood, mental emotions, and the diseases of other organs; which last is treated at some length.

To this follows a chapter on the functional derangements of the biliary organs, which are obviously referrible to an "increased, a diminished, or a vitiated secretion of the bile, or to its impeded, altered or deranged excretion." A few words explain the pathological conditions that may determine this morbid secretion and deranged excretion, and the rest of the chapter is devoted to a full consideration of all the circumstances connected with these derangements, and to an extended account of biliary concretions, their nature, symptoms, and the mode of facilitating their passage along the ducts into the intestines.

The biliary passages are also liable to diseases, which we find described, as they affect the glands of the ducts and the mucous membranes of the gall bladder, biliary ducts and tubuli: of which the treatment is much the same as that of the inflammation of the liver.

The parenchymatous substance of the liver, and its investing membrane, are both liable to attacks of inflammation, which may be either acute or chronic: a form of hepatic congestion, too, is treated of by our author, which arising from a mechanical obstruction to the passage of the blood through either of its venous systems, may terminate in hemorrhage. The account given of the nature, symptoms, and terminations of hepatic inflammation, ending often in the formation of abscesses, as well as that of the proper treatment of the disease by antiphlogistic remedies, and not by specific measures alone, is very ably and clearly drawn up. Mercury has long been used and advised in hepatitis, and particularly among the practitioners in India, who at one time relied upon it almost entirely in their treatment of this affection; but later experience, and the almost universal testimony of authorities of the present day, makes it altogether secondary to the antiphlogistic measures. Dr. T. is decidedly opposed to its administration, even in chronic cases, and with the intention of promoting the absorption of morbid deposites.

"Of the power of mercury," he observes, "in stimulating the absorbent system, many familiar illustrations might be quoted, as the disappearance of dropsical effusions, under its administration alone, or in combination with diuretic medicines; the removal of the lymph effused in iritis, * * * * but these are salutary changes which nature frequently accomplishes for herself, or with but little assistance; and it may be fairly questioned, whether any of the structural alterations of the liver, not of an inflammatory character, which do not undergo spontaneous resolution, ever disappear under, or in consequence of the administration of mercury. At all events, the prejudicial operation of mercury in the chronic structural affections of the liver, is recognised by a number of high authorities."

On the other hand he speaks highly of the use of nitro-muriatic acid in these affections.

Structural diseases of the liver are the subjects of the concluding chapter of the affections of the biliary organs, and are classed under the names of serous cysts and hydatids, to the development of which last this organ is

particularly subject, adipose degenerations, tubercles or cirrhosis, and malignant formations, which, with very few exceptions, are posterior in their development in the liver to their appearance in other parts.

The pancreas is well known to enjoy no immunity from the operation of causes which occasion disease in other organs, and our author therefore treats as fully of its affections as our comparative ignorance respecting them will permit. In a practical point of view their consideration might almost be omitted, for, as the American editor very justly remarks,

"We have never seen a case in which disease of the prancreas was diagnosticated on rational grounds: this result is derived from a very large number of pathological examinations. We do not, of course, allude to our own experience only, but to that of many others. We cannot, therefore, avoid regarding the diseases of the pancreas as matter of little else than simple anatomical curiosity. The lesions of this organ, as found after death, are quite rare, with the exception of chronic hardening, which appears to result from previous inflammation."

The last chapter of this division of the work, is upon the diseases of the spleen, which, from it situation, are usually examined in this connection with the digestive organs. From our entire ignorance of the functions of the spleen, its functional derangements cannot be considered, and our author passes directly to an examination of its structural affections, which are studied under the forms of congestion and inflammation, purulent formations, hypertrophy, &c. Among the causes of splenic disease, its connection with intermittent fever, and its prevalence in malarious districts is adverted to; and it is remarked, that much division exists in the opinions of pathologists, upon the question, "Whether the splenic enlargement occurs as a consequence of morbid action taking place during the progress of the fever, or whether the fever occurs as the consequence of a previous change in the condition of the spleen." Without pretending to solve this question, he glances at the other sources of this disease, and with a very judicious account of their treatment, closes the consideration of the subject.

The next 118 pages are occupied with an examination of the diseases of the urinary organs, among which are comprised those only which come under the cognizance of the physician. The whole subject of the diseases of the kidneys is therefore treated of in detail, while those of the bladder, urethra, and neighbouring glands are more generally touched upon, the two latter in particular, which are merely considered in their relations to the diagnosis of the diseases of the kidneys and bladder.

Much attention has of late years been paid to the investigation of the morbid condition of the urinary organs and their secretions, by Drs. Bright and Christison, M. Rayer and others, which, while it has greatly increased our knowledge, has given new impulse to the researches of others; and as a natural consequence, many of the errors and vague belief which had crept into their history, have been discarded, and a degree of method and precision has been imparted to the subject, which promises yet further to enrich the science. Dr. Christison has taken charge of this portion of the work before us, and has furnished a complete summary of all that is interesting or important in the present state of our knowledge on the subject.

Before entering upon the inquiry into the diseases of the organs, Dr. C. lays before the reader a short, but valuable statement of the properties of

healthy urine, with the remarks, "that it is scarcely possible to take a single step in confidence in the diagnosis or treatment of diseases of the urinary organs without attentively studying the deranged states of the urine; and in order to appreciate correctly the inference to be founded upon these states, it is indispensable that a correct knowledge be formed of its healthy condition." We are soon made aware of the importance of this preliminary investigation, for the next chapter, on the functional diseases of the kidneys, is based upon the modifications impressed upon this healthy urine, the result of morbid action, either primarily excited in the kidneys themselves, or induced secondarily by diseases in other organs of the body. The most important of these modifications are the increased or diminished quantity of urine discharged; the changes in its density and in the quantity or quality of its solid contents, and the introduction of a great variety of morbid ingredients, derived either from the animal system itself, or of materials from without, and through the medium of food taken. Of the morbid or preternatural contents of the urine, Dr. C. observes,

"It is particularly worthy of remark, that all those which are organic in their nature have an intimate relation to one another, as well as to the natural constituents of the urine, urea and lithic acid, in their elementary constitution. Urea, lithic acid, oxalic acid, albumen, sugar, cystic oxide, carbonate of ammonia, are so related in their atomic constitutions, that simple changes will convert them into one another. Hence the facility, otherwise incomprehensible, with which the urine furnishes so great a variety of morbid products."

Among other morbid affections of the urine, the first which claims attention, are the calculous diseases, or gravel and urinary calculus. Of the former, which belongs more especially to the province of medicine, we have a full and comprehensive history. Its symptoms are clearly detailed as they vary with the different kinds of gravel met with in the urine, and its causes and pathology are investigated together, and it would appear from the examination, "that however efficacious the dietetic and other causes mentioned, often prove in their operation, they nevertheless do not often give rise to an outbreak of the disease, unless under the co-operation of certain predisposing circumstances; occasionally, indeed, cases will seem to arise under full, luxurious, intemperate living, where no predisposition can be traced. But on considering how vast a number of people, in the middle station of society, live in that manner to an advanced age, without showing any tendency to gravel, some reason will appear for doubting whether a predisposition may not be indispensable in all instances." The treatment of this affection is admirably explained, and the principles upon which it is to be conducted are laid down *in extenso.*

The same course, to a certain extent, is to be applied to the relief of those suffering from urinary calculus. As far as the aid of the physician can be of advantage to the patient, full directions are given for its administration; and the reader is referred to the works on surgery for a more general exposition of the whole subject, of which a condensed view only is given.

The next functional disorder is treated of in two distinct chapters, under the designation of diabetes insipidus, and diabetes mellitus. The former includes several distinct affections, which have been named by Dr. Willis, *hydruria*, *anazoturia*, and *azoturia*, that is watery, deazotised and hyperazotised urine. In the first the urine is simply diluted, and in the two others the quantity of urea is changed relatively to the other ingredi-

ents of urine. The nature and treatment of each of these varieties is briefly examined, and the author then proceeds to consider the more important subject of diabetes mellitus or the saccharine form of the disease.

Adopting the definition that diabetes mellitus consists in "a discharge of saccharine urine, with a great tendency to emaciation and suppressed transpiration," as probably least objectionable, Dr. C. passes in review the history and symptoms of the disease, and examines in detail the character of the urine, which "is increased in quantity both absolutely, and likewise for the most part relatively to the fluid contained in the drink and food; it is also commonly increased in density in its proportion of solid contents and in the amount of solids daily discharged by it; and further, it is essentially altered in its sensible qualities and chemical constitution," containing, besides its usual constituents, a large quantity of saccharine matter. An interesting account is presented of the condition of the other functions of the body in connection with this matter, and a most important fact is noticed relative to the state of the alimentary canal, namely, the discovery by Mr. Macgregor, that sugar is abundantly formed in the stomach by the process of digestion.

"Mr. Macgregor states that he has repeatedly found sugar, by the process of fermentation, in the contents of the stomach, vomited after digestion had begun, and that he has likewise detected it in abundance in the fæces, both by fermentation and by crystallization. He further adds, that sugar may even be found in the half digested food when no aliment had been taken for some time before, except of an animal nature; that the quantity, however, is much increased under a vegetable diet, and that in some circumstances he has detected the same principle in the saliva. These are the most valuable and important of all the facts which have been for some years contributed to the pathology of saccharine diabetes, and it is therefore much to be desired that their accuracy were put to the test of further observation by others."

Ambrosiani of Milan, Dr. Charles Maitland, and more recently also Dr. Macgregor, have discovered sugar also in the serum of the blood, which fact is greatly enhanced by its detection in the alimentary canal. As pathological anatomy throws no positive light upon the nature of this strange disease, as it is now ascertained that diabetic urine "is substantially natural urine, *plus* so much sugar," and the experiments of Ambrosiani, Maitland and Macgregor, prove that sugar is found in the alimentary canal and in the blood, it would seem "that no further difficulty would exist in accounting for the peculiar condition of the urine, without the necessity of assuming the concurrence of some peculiar irritation or modification of the renal function," the kidneys being solely required to exercise their natural function of discharging a foreign substance from the blood.

We have delayed rather long upon these facts, but their practical importance must be our excuse, and we would refer all to this truly excellent chapter for a fuller development of the case, and for a detail of the mode of treatment, which is now pretty well established.

Two short chapters, one on diabetes chylosus, a very rare affection, and the other on suppression of urine, or the *ischuria renalis* of most nosographists, lead us to the consideration of the organic diseases of the kidneys, of which it is remarked "few organs in the body are subject to so great a variety; most of them, however, are of rare occurrence; and those which are frequent have been discovered to be so only within a few

years. * * * The general result of inquiries is, that the kidneys are more or less liable to all the alterations of structure which are observed in the great viscera generally, and to certain peculiar affections which bear reference to their peculiar functions."

Errors in position and conformation, and hypertrophy of the kidneys are described in two short chapters, which are immediately followed by one on their inflammation. This has been proved by the researches of Rayer to be infinitely more common than had hitherto been supposed, and is divided into several diseases, according as it attacks different structures, which are all considered by Dr. C. under the two heads of simple acute and chronic nephritis, reserving the subject of granular deposition, or the albuminous nephritis of Rayer for another chapter; for as Dr. C. remarks, "the connection of that disease with inflammation has not been established."

This chapter on inflammation is a condensed account of the disease, taken from the great work of Rayer,* now in course of publication, and the history of its symptoms, complications, causes, and anatomical characters is detailed in a masterly manner. The prognosis and treatment conclude the article, which, as it appears to us, contains all that is necessary to know, in order to form a clear and thorough idea of the affection under consideration.

Granular disease of the kidneys is next taken up. It was first noticed by Dr. Bright in 1827, who pointed out "the frequent connection of anasarca and other dropsical affections, with a peculiar disease of the kidneys, the leading character of which is the deposition of a yellowish granular matter in its substance, together with the gradual atrophy of its cortical and tubular structure." The concurrent testimony of numerous observers, of whom our author was not the least distinguished, has settled that "granular degeneration of the kidneys is one of the most common of organic disorders; that it is intimately connected with a great variety of both chronic and acute diseases, which it either exasperates as a complication, or favours by establishing a predisposition; and that although often obscure in its characters, it may almost always be successfully recognized, if skilfully sought for." This chapter is chiefly an abstract of the author's previously published opinions, a work already too well known to render an analysis of this necessary.

One chapter more upon the other organic diseases, as hyperæmia, anæmia, atrophy, &c. concludes the subject of diseases of the kidneys, and we cannot close our notice of this part of the work before, without saying in the words of the American editor, that "the excellent memoirs of Dr. Christison on the affections of the urinary organs leave little to be desired." A few pages are added on the diseases of the bladder and urethra, and their diagnosis pointed out; for the history of these affections, the reader is referred to the works on surgery, to which department of knowledge they properly belong.

The last eighty-four pages of this volume are occupied with the history of the diseases of the uterine organs, of which the functional derangements, or those connected with menstruation, are furnished by Dr. Robert Ferguson, of King's College, and those depending upon organic disease of the uterus and ovaria are from the pen of Dr. Simpson, of the Edinburgh University.

* Traité des Maladies des Reins.

A concise account of the function of menstruation, with a full and sufficient examination of the various circumstances connected with its aberrations and derangements, is presented in a series of chapters on imperfect puberty, arising from precocious or tardy menstruation, or dependent upon faulty development; on suspended menstruation or amenorrhœa, which may be the result of physiological causes, or of morbid conditions of the reproductive function, as manifested in a state of constitutional debility or with an appearance of superabundant circulation; on vicarious menstruation; on painful menstruation or dysmenorrhœa, which is independent of defect or organic lesion even in the most severe cases, and on excessive menstruation or menorrhagia, including only these uterine hemorrhages which are directly or indirectly connected with the periodical flux, and omitting such as arise as a symptom of uterine structural disease. On hysteralgia or irritable uterus, a painful affection, first described by Dr. Gooch, an abstract of his admirable essay, to which the reader is referred, is presented; for subsequent observations have added little or nothing to his statements, which they have fully confirmed. A chapter on leucorrhœa follows, in which this is treated as in most cases the result of functional derangement, though occasionally evidently a consequence of an inflammatory condition of the vagina.

Of the various organic diseases of the uterus, its congestion and inflammation are first investigated. The former of these conditions derives its chief interest and importance from the fact, that recurring at every monthly period, it may aggravate any chronic form of disease already existing in the organ, or may rekindle an acute attack which was nearly subdued, thus, perhaps, producing a chronic affection. Means must therefore be resorted to, to prevent these baneful effects, and to moderate the influence of this physiological condition, thus converted into a source of irritation and morbid action.

"Rest, in the supine posture, is one of the most important of the measures which we should adopt. It is not, however, to be regarded alone as a direct and effectual means of treatment, but without it all our other resources will in general fail. Its importance we can easily understand when we reflect how readily blood gravitates to the more dependent parts of the body, more especially if the general system happens at the time to be debilitated, or if the vascular system of any dependent organ is in so weak a state as to admit of congestion occurring in its vessels with more than usual facility. We assume, in fact, the supine posture here as one element in the treatment, for the same important reason as the surgeon insists upon it in the treatment of an injured, inflamed, or ulcerated limb; and we look upon it as an indispensable measure, during the period of menstrual congestion, as well as in the course of the active treatment of all uterine affections. It is sufficient, in many cases, to cancel the bad effects of the temporary uterine congestion, but where it is not, the detraction of blood either generally or locally becomes indispensable. The selection of local or general blood-letting must necessarily depend upon individual peculiarities, such as the state of general plethora and the strength of the patient's constitution. We have seen excellent effects from small venesections from the arm (to the extent of six or eight ounces) immediately before or at the commencement of the menstrual period, in cases where it was our object to avert the dangers of the accompanying congestion; and we have known similar good effects result from the application of a few leeches to the cervix uteri at the same period.

"In constitutions so reduced or anæmic as not to justify the detraction of blood, dry cupping, or slight counter-irritants to the lumbar and dorsal regions may be employed with a similar indication, with such other means as keep the general circulation as much as possible equalized."

The author next passes to a consideration of metritis. The acute form of this disease, "which is rare in the unimpregnated state," should be at once vigorously attacked by antiphlogistic remedies, in order to prevent it from running into some one of the chronic forms, which it is particularly liable to do. These are in themselves so painful and distressing, as well as so frequent, that they constitute the most important structural diseases of the uterus; they are, therefore, studied with care in the pages before us; and the means of detecting their existence by the touch and the speculum besides the rational symptoms, with the proper method of treatment, are well laid down.

In the following chapters, fibrous tumours, polypus, the cauliflower excrescence, carcinoma and corroding ulcer of the uterus, each receive an appropriate notice and description, containing a summary of all the facts connected with them. These, with the concluding chapter on other morbid degenerations of the structure of the uterus, such as its cartilaginous and osseous transformation, hypertrophy and atrophy, &c., complete the history of the diseases of the uterus.

Inflammation and dropsy are by far the most important structural diseases of the ovaries, and are presented in detail in two excellent chapters, to which succeeds one containing an enumeration of the other organic diseases of a less frequent and less practical nature which invade these organs, and terminating the volume before us.

We have thus endeavoured to present a general idea of the interesting matters contained in this portion of the Library of Practical Medicine, which comprises all the affections which are incident to the organs within the abdomen. Like the other portions of this valuable series, its great merit is, that while it forms one of the best text books, which can be placed in the hands of the student, its pages may be consulted with decided advantage by those who have passed through the early routine of study, and are now actively engaged in the practice of their profession; and the universal satisfaction with which the different volumes have been received is in itself an evidence of the necessity of such a publication, while it evinces also the great ability with which the contributors to the series have executed the tasks assigned to them. We have had occasion several times to allude to the additions and remarks of the American editor, who has contributed valuable information respecting the modifications of disease in this country, which must enhance the value of the work in the estimation of the American practitioner. C. R. K.

RETROSPECTIVE REVIEW.

ART. XIV.—THEODORI KERCKRINGII, *Doctoris Medici, Commentarius in Currum Triumphalem Antimonii* BASILII VALENTINI, *a se Latinitate donatum.* Amstelodami, 1671: 12mo. pp. 342.

The Triumphal Chariot of Antimony, by BASIL VALENTINE, *translated into Latin, and enriched with a Commentary, by* THEODORE KERCKRINGIUS, M.D. Amsterdam, 1671.

AMONG the many reflections afforded by observation to humble and mortify human vanity, there is none which comes home so directly to the business and bosom of the student, as that suggested by the decayed reputation of works of learning and science which once enjoyed the most eminent renown, and appeared certain to descend to posterity with unabated lustre. The productions of the mind are found, with some few exceptions, to be almost as perishable as those of the body. Authors depart, and rest from their labours, and their works follow them. The volumes which in their day commanded unlimited admiration, and seemed secured by the magic of genius and wisdom against the attacks of time, are superseded by productions more suitable to the advanced intelligence, or more agreeable to the improved taste or increased frivolity of a new generation, and are suffered to sink into neglect and oblivion. *Debemur morti nos nostraque.* Works which were once esteemed, like the pages of Thucydides, *an estate for ever*, to be inherited by the wise and learned of all coming ages, are often rejected by those fastidious legatees with profound indifference, and suffered to repose in dust and obscurity, or to be measured, examined, and scrutinized only by the silent and unflattering criticism of mathematic spiders.

In no department of learning is this instability of reputation more conspicuous than in medicine. The average duration of systems of medical doctrines and practices is briefer than that of their authors. Opinions promulgated with zeal and abilities, and received with universal favour, have been quickly rejected with equal unanimity; and the tomes which at one period were reverenced as the repositories of the *omne scibile* of the healing art, have at no distant day come to be neglected with contempt for their dulness, or denounced with indignation for their pernicious errors. Whether such fluctuations depend upon the essential difficulty of medical inquiries, or the limited capacity of the human mind, or the neglect of the just rules of philosophizing, or upon some other more latent causes by which the attainment of scientific truth has been prevented or delayed, we shall not now pause to investigate. Nor shall we on this occasion attempt to decide whether the wreaths which crown the present leaders of the medical ranks are more permanently fixed than those which have fallen or been torn from the brows of their predecessors. We are told by the admirers of the present day that the age of system-makers has passed away, and

that medical philosophers have at length derived wisdom from the mistakes and failures of those who went before them, and are directing their researches in such a manner that they cannot fail to add materially to the stock of true knowledge. This may all be very true, and we heartily hope, and partly believe, that it is so. We should recollect, however, that similar condemnation of all preceding speculators, and equal complacency respecting their own achievements and prospects have been avowed by the physicians of almost every age. And though we entertain all becoming reverence for our excellent contemporaries, we are still of opinion that they and their productions are in some slight particulars not entirely dissimilar to what the world has seen before; and that the medical works of past ages are at least so far akin to those of our own day that even amidst the refulgence of modern improvements their wrecks and remnants may yet be examined with some degree of interest and advantage. This is more especially true with regard to the writings of those authors who contributed materially to the advancement of science, and whose labours and discoveries have consequently continued to be referred to long after the volumes in which they are recorded have, from a variety of causes, ceased to be generally read. In examining such works, we indulge a species of curiosity, not unlike that which impelled Lucian's Menippus, upon his descent to the lower regions, to inquire for Leda, Helen, and the other renowned beauties of antiquity, in order that he might ascertain whether their charms were in reality as wonderful as they were considered by their contemporaries; and if we are occasionally like the Cynic philosopher, surprised at the nakedness and deformity of the dry bones that are presented to our inspection, we may also, like him, find such a spectacle not without its use as a subject for profitable reflection.

One of the most remarkable works of the kind referred to is the treatise of Basil Valentine, the title of which we have placed at the head of this article. To this publication has been commonly ascribed the introduction into general use of the preparations of Antimony, an addition to the resources of the practitioner of medicine second to but few others that have ever been made. Besides the strong claim upon the attention and gratitude of physicians which its author might hence advance, the work itself is interesting for the opinions which it contains on various subjects connected with medicine and other departments of philosophy, and also for the indications it affords of the state of feeling excited by the memorable contest between the chemists on the one side, and the Galenists or regular physicians on the other. The condition of science at the epoch of the revival of letters in the fifteenth and sixteenth centuries, and its disenchantment from the potent spells of Aristotle and Galen, are subjects so curious and important, that a work by a contemporary author which throws any light upon them, or gives any information respecting the doctrines generally received at that period, and the changes which were then in progress can scarcely fail to be interesting to scientific readers, and to those who wish to investigate the history of the human mind. It is from this consideration that, although our pages are for the most part devoted exclusively to the medical tenets of our own living and breathing nineteenth century, we are yet disposed, on the present occasion, to cast a retrospective glance upon the old Benedictine alchymist, who three hundred years ago, was fully persuaded that by his labours of the furnace and alembic he had unravelled all the mysteries of medicine, advanced that

science to its ultimate point of perfection, and acquired for himself a character which would cause all the coming generations of mankind to reverence him as the most illustrious of their benefactors.

The *Triumphal Chariot of Antimony*, like all the other works of its author, was written originally in High Dutch. For the advantage of being rendered accessible to the learned world by means of a Latin version, it is indebted to Dr. Kerckringius, a scholar whose profound veneration for Basil Valentine, and implicit faith in his dogmas, must have made the task of translating and expounding his writings, a labour of pleasure and love. "I am convinced," he says, "that of all chemists, Basil is the most excellent as well as the most distinguished and illustrious. When you have read and understood his productions, you have acquired everything that can ever be hoped for from the art of chymistry. Of this fact I am perfectly assured, and in support of its truth I am ready to stake my credit and reputation. His various processes I have fully tried, and in doing so often have I erred, and many needless expenses have I encountered; not, however, from any fault of Basil, but, to confess the truth, simply from my own. That you may avoid such evils, I have added to the work a commentary, which it would not become me to commend, but of which I will merely say, that though it may appear to be of but small importance, it yet contains many things, from my former ignorance of which, I was subjected to immense expense. If you dread not this danger, you have no need of my assistance; go forward by yourself. But, on the contrary, if you desire to attain your goal with fewer errors, less loss, and less delay, you will find me a useful guide, or at least a safe and convenient index, through the manifold windings and intricacies of the road upon which you are entering."*

Of the life of Basil Valentine, whose labours Dr. Kerckringius, with that excess of zeal so common among editors has thus strongly eulogized, there is but little related, and of that little some of the particulars are evidently erroneous. That he was a monk of the order of St. Benedict, we learn from himself; and that the city of Erfurt, in Saxony, was the place of his abode, we are told by others. With regard to the period at which he flourished, there is a diversity of statements. His true date may, however, be ascertained with sufficient exactness from several passages of the work before us, in which he mentions the syphilis as a new and unknown malady which had been shortly before introduced into Germany by the military expeditions of the French.† This disease, if previously known at all in Europe, which is wholly improbable, had certainly neither excited public attention nor attracted the notice of physicians before the return of Columbus and his companions from America in 1492. The present work was therefore probably written in the early part of the sixteenth century. Of the character of its author we know very little, except what he has himself thought proper to communicate, and what we may readily infer from his writings. That he was a man of the strictest morals and most ardent piety, we are assured by his own unexceptionable testimony. There are, it must be confessed, indications throughout this work, of an angry vehemence of temper not easily reconcilable with his professions of sublimated purity; and his denunciations of avarice and exhortations to contempt of wealth, are occasionally brought into rather

* Epistle to the Reader. † Page 52, &c.

too close proximity to certain complacent allusions to his own opulence. Yet he appears to have been satisfied that piety was the most prominent feature of his moral physiognomy. He both begins and ends his book with earnest assertions of his personal holiness and sanctity, and makes the same subject the burden of his song through many of its intermediate pages. Like Joseph Surface, he is a man of *admirable sentiments.* He is bound, he says, by holy vows, requiring a mode of life widely different from that of ordinary mortals.* He is a religious man, incorporated into a sacred order, in which he is resolved to continue as long as it shall please the Almighty to animate his miserable body with vital breath.† From the horrid and unnatural passion of love, the evils of which he inveighs against with all the fervour and acrimony with which the same subject was wont to inspire Mr. Shandy, he declares that he had always been exempt, and would forever remain so.‡ He exhorts his disciples if they would imitate him to take up their cross and suffer as he had suffered, to endure persecution as he had endured it, to labour as he and his great predecessors had laboured before them, and to offer up continual prayers, with a full assurance that their devotions would be as successful as his own.§ If his manner of speech be of a simple cast, he begs that it may be remembered that he is a religious man, unaccustomed to secular concerns and worldly eloquence; he hopes that this defect will be forgiven him; and to all good Christians who shall grant him their pardon, he offers the remuneration of his daily and nightly services in prayer and intercession.‖ It is certainly not easy to read those and many parallel passages without concluding with Benedict that, "knavery cannot, sure, hide himself in such reverence;" the very conclusion, no doubt, to which they were intended to conduct us. The only personal adventures which he refers to are, that in early life he had travelled in England and Belgium,¶ and that at a late period, after having accomplished the great object of his chemical researches, he had performed a laborious pilgrimage to the shrine of St. James.** In the two countries which he visited nothing pleased him so much as their excellent beer, and he consequently paid particular attention to the genial art of brewing, and has given a minute detail of its processes. His studies were diligent, and his writings are said to have been numerous and highly esteemed. He concludes the *Triumphal Chariot* by declaring his intention of confining himself to his monastery for the purpose of investigating the more recondite questions of philosophy, and of writing on the subject of vitriol, sulphur, and the magnet.

The present work is interspersed with frequent ethic and theologic discussions, from the length and discursive character of which we should be apt to infer that it was by no means one of its author's juvenile performances. With these discourses we shall not detain the reader, for however edifying they may have been in the original High Dutch, they have certainly waxed somewhat pointless in undergoing the progress of transmutation into the Latin of Kerckringius, and appear indeed to have contracted a good deal of that antique mellowness of complexion which among the uncharitable might perhaps subject their author to suspicion of having been *an old man* in even the emphatic sense of Dogberry.†† Com-

* Page 1. † Page 101. ‡ Pages 322, 327. § Page 197.
‖ Page 266. ¶ Page 52. ** Page 274.
†† "The pious reflections of the author," says Dr. Kerckringius, "I neither praise nor condemn. Let each one estimate them according to his own judgment, and the

mending, therefore, these portions of the treatise to the consideration of the *serious*, we shall proceed to notice such of its topics as may be of more general interest.

One of the subjects which occurs most frequently, and is most apt to attract the attention of the medical reader, is the author's strenuous expression of contempt for the physicians of his day, and reprobation of their prejudices, ignorance, and imbecility. After a formal apology for the liberty he was about to use, he informs them, that the amount of their science in medicine and surgery is precisely equal to that which is contained in the brains of those cocks' heads which the younger sort of school-boys are wont to scribble on the blank leaves of their primers.* He expresses his determination to hold them up to lasting infamy as fools and idiots.† His indignation is not satisfied with their punishment in this world; it extends beyond the bounds of life; and for their neglect and ignorance of their profession, he denounces against them the horrors of eternal misery and everlasting burning.‡ These are hard words, and it would be hard to discover where Basil's vaunted sanctity and charity were slumbering when they were written. Yet though his violence and rancour must be condemned, we should recollect, however, that medical science was in his day at an exceedingly low ebb, and its professors as little worthy of the name of physicians as any who have ever borne that most honourable title. They appear to have been well described in the gloomy representation of the learned world, or rather of the unlearned pretenders to learning, which was drawn by Friar Bacon in the thirteenth century: "The mass of students," says that great philosopher, "are languidly and stupidly consuming their time, labour, and means in poring over wretched translations of the ancients. They regard nothing but appearances; they seek not for knowledge, but only for the reputation of knowledge with the ignorant rabble. Never was there so much ostentation of wisdom, and never so much real error and ignorance."§ The lapse of three hundred years from the time of Bacon, whatever beneficial changes it might have effected in the other departments of science, had made but little improve-

doctrines with which his mind may have been imbued in infancy. My part was barely to translate them into Latin in such a manner as would occasion the reader as little sick stomach as possible—*minimam delicato lectoris stomacho allatura nauseam.*"—P. 8, *note*. The Doctor's charitable offorts have not been very successful.

* Page 25. † Page 36.

‡ We can offer no apology for these and numerous other eruptions of spleen and petulance which disfigure the work, except the one suggested by the Rev. Tribulation Wholesome, for the similar outbreaks of another renowned alchymist—

> ——"We should give somewhat to man's nature,
> The place he lives in, still about the fire,
> And fume of metalls that intoxicate
> The braine of man, and make him prone to passion.
> What makes the Devill so devillish I would aske you,
> Sathan, our common enemie, but his being
> Perpetually about the fire, and boyling
> Brimstone and arsnike?"—Ben Jonson, *The Alchemist*, Act 3, sc. 1.

§ Vulgus studentium languet et asininat circa male translata, et tempus et studium amittit in omnibus et expensas. Apparentia quidem sola tenet eos, et non curant quid sciant, sed quid videantur scire coram multitudine insensata. Nunquam fuit tanta apparentia sapientiæ, cum tamen nunquam fuit tanta ignorantia, tantus error. Quoted by Jebb, in his preface to Roger Bacon's *Opus Majus*.

ment in the character of medicine. Physicians at the close of the fifteenth and beginning of the sixteenth centuries were still blindly devoted to the doctrines of Galen. Giving their whole attention to his works, neglecting the observation of nature, their prescriptions an immense farrago of feeble or useless articles, their practice ill-directed, irrational and inert, they were but little entitled to respect, and in no way qualified to excite in their successors of the present day any emotions of fraternal sympathy.

But however much they may have deserved reprehension, or needed reformation, it may be questioned whether Basil Valentine was the most proper person to inflict the one, or the best qualified to accomplish the other. Of his moral fitness for such tasks those who value his own assertions will of course think favourably; but it cannot be denied that respecting the strength and integrity of his judgment, his writings afford a testimony that is far from satisfactory. Antimony, he says, is, like the other metals, a mineral vapour or smoke, extracted by the stars from the earth, by a kind of sidereal sublimation, and afterwards coagulated, concocted, and matured by the elements.* Like the other metals, it consists of salt, mercury, and sulphur, its principal ingredient being sulphur, its second mercury, its third and least salt. There is a better kind, however, that has more mercury than sulphur,† &c. &c. Admirable philosophy for one assuming to be the reformer of errors, the guide to truth, and the author of the only perfect system of medical science! His whole work abounds with similar gratuitous and absurd doctrines. How far he was superior as a practitioner of medicine to those whom he reprobates, it would be not very easy to determine. The timid and inefficient practice of the Galenists was strongly contrasted by the vigour and temerity of his chemical brethren. The use of the metallic preparations, which the latter had introduced, and of the most powerful remedies of other kinds, afforded them the means of often effecting splendid results, and was also, as their adversaries assert, frequently the occasion of deplorable and fatal catastrophes to their patients. The propriety of using metallic medicines was one of the subjects of most passionate dispute between the two parties, and our author alludes to it with characteristic warmth. "There are numerous fools in our time," he says, "who are continually exclaiming, *crucify them, crucify them*, against all who prepare medicine from poisons, as from mercury, arsenic, and antimony. These persons would do well to consider how extremely incapable they are of forming any just idea of the difference between a medicine and a poison; and that though they are doubtless wholly unable to divest a dangerous article of its malignity, and convert it into a salutary medicine, it by no means follows that such a power may not be possessed by wiser men."‡ Besides the three great medicines which he thus refers to, there are but few others mentioned in

* Pages 103, 107, 111, 311. † Pages 111, 37.

‡ This clamour against the use of poisonous drugs, so often raised by charlatans, is frequently heard at present. Mr. John Thomson, of Albany, in his report to the Legislature of New York, in the beginning of the last year, stated as the most prominent of his objections to the various evil arts and practices of the Medical faculty that, "they use the same articles to restore the sick to health, that a well person would take to destroy life, if he wished to commit suicide." "Now we can never," says this sage personage, "subscribe to the doctrine that what will kill in the hands of an assassin or suicide will prove a balm to heal the sick and restore consolation to the afflicted, because the hands are changed that administer the article." Follies and absurdities are valetudinarians, sickly and frail, but very long-lived.

the present work. Nitric æther, of which he is said to have been the inventor, he recommends as highly valuable.* The *sperma ranarum*, powder of toads, and horn of the true unicorn, constitute the residue of his materia medica.† Of his skill and success in the use of medicines, he makes frequent asseverations, and with some of the principles of therapeutics he was certainly acquainted. For example, he speaks in a manner which would have given satisfaction to Mr. Abernethy himself, of the impossibility of curing certain external local affections without using internal and constitutional remedies.‡ There is but little, however, in the present work of a character to exalt our ideas of his medical abilities. He enjoins upon his pupils to consider carefully and deliberately *after* they have administered a medicine whether it be likely to benefit the patient or aggravate the disease:§ had a Galenist given such a precept, his preposterous caution would scarcely have escaped our author's censure.

His theory of the *modus operandi* of medicines is derived from the doctrines of the Rosicrucians, or Brothers of the Rosy Cross, a sect of hermetical philosophers, who were first noticed in Germany, about the beginning of the fourteenth century.‖ In accordance with the dreamy notions of these mystics or impostors, from whom many other of his tenets are borrowed—he teaches that the elements, minerals, vegetables, the bodies of men and brutes, all parts and all objects in short of the visible universe, are crowded with myriads of spirits. These are sentient, intelligent, ingenious, skilful in the arts, and permitted by Providence to exercise for a season extensive influence over the affairs of our world. To the agency of such of them as chance to be connected with metals, minerals, and plants is owing the medicinal virtue of those substances. The great object of medical science is to discover the characters of the spiritual tenants of various articles, to prepare them to be extricated from their connection with matter, and to compel them by force of art to penetrate the recesses of the body, and to exert their salutary influence in counteracting disease, restoring health, and producing all other effects that may be desired.¶

The extravagance of this doctrine is sufficiently evident. It is, however, not at all more absurd or less supported by proof than many theories which have been advanced in both ancient and modern times by wiser and more sober men than Basil Valentine, who have stood at the head of

* Page 97.

† Of the first two of these elegant articles, the reputation had been established before his time; they have since been commended by Lord Bacon and Mr. Boyle, and are still in good account with domestic practitioners. Respecting the unicorn's horn, which was long a most celebrated alexipharmic, the reader may consult the learned labours of Sir Thomas Brown, *Pseudodoxia Epidemica*, B. 3, c. 23, with certainty of being entertained and instructed.

‡ Page 271.

§ *Postquam* medicamentum corpore receptum est, seque per omnia membra, diffudit, ut perquirat eos defectus contra quos adhibetur, animadvertenda utilitas; potest enim fieri ut medicamentum præparatum diligenter, et pondere debito exhibitum, morbis quibusdam obsit potius quam prosit, et potius venenum videatur quam medicamentum.—P. 18.

‖ For a brief, but sufficient account of the Rosicrucians, see Mosheim's *Ecclesiastical History*, vol. v, p. 78, English edition of 1782. The doctrines of this sect, which are of Eastern origin, and may be traced to the Arabian alchymists, suggested to Pope the machinery of the most elegant of his works.

¶ Page 30—34.

the medical profession, and whose opinions have been received by physicians with zealous approbation.

With Basil Valentine is said to have originated the famous chemical hypothesis of the three principles or elements, salt, sulphur, and mercury; a doctrine referred to in the present work,* which was subsequently stolen, or borrowed without acknowledgment, by his celebrated successor, Paracelsus, and at a still later period attacked and confuted by the illustrious Mr. Boyle.† It was the first germ of opposition to the Peripatetic division of all things into four elements, a dogma which was otherwise scarcely called in question before the beginning of the eighteenth century.

All of our author's writings are tinctured, more or less, with the opinions and phrases of the alchymists. That he belonged to this visionary sect will excite no prejudice against him, when we consider the age in which he lived, and the wide prevalence of the error which he adopted;—an error which was shared by some with whom it could discredit no man to be associated. "The folly of a projector," says the Rambler, "is rarely the folly of a fool;" the folly of the alchymists, it may be added, has been the folly of some of the wisest and best of men. It is a folly, too, which has been perpetuated even into our own days of boasted light and intelligence; we ourselves formerly knew an ingenious gentleman, who consumed the greater part of his life, and the whole of his fortune, in the pursuit of the grand *arcanum*, which he was persuaded that nothing would have prevented him from attaining, had he not been unfortunately arrested in his labours by the premature exhaustion of his funds. The alchymists were, in the days of Basil Valentine, a very numerous body of men, and among them there existed, of course, a great diversity of character. Some of them were undoubtedly sincere and honest in their views, and actuated by noble and philanthropic motives; the philosopher's stone which they sought was the *medicina hominum et metallorum*, capable not only of perfecting the baser metals, but also of preventing or healing all diseases, and of prolonging indefinitely the period of human life, or, at least of vastly extending its duration. Others may have commenced their career with fraudulent purposes, and without the least faith in the art which they professed, and subsequently, by their efforts to convince the world of its truth have succeeded in convincing themselves. *Fingunt simul creduntque;* the guilt of imposture is often transmuted into the madness of fanatic credulity. But besides these two classes, there was another division of alchymists, and it was probably much the largest proportion of their body, who were thoroughly dishonest, profligate, and abandoned from the b ginning to the end of their course, and who have generally, but not justly, been considered the proper representatives of their whole fraternity.‡ It is great injustice to the better part of the hermetic professors

* Page 104.

† See Boyle's Works, vol. iii, *The Sceptical Chymist.*

‡ All of this class professed to be *vere adepti*, and fully acquainted with the method of effecting the *great transmutation*. Persons possessed of this gold-making art would, of course, be at once the masters of incalculable wealth, and the alchymists being generally in widely different circumstances were often taunted with their poverty as evincing the vanity of their science, and the falsehood of their pretences. Thus Ben Jonson tells them in one of his epigrams—

> "If all you boast of your great art be true,
> Sure willing poverty lives most in you."

to confound them with these reprobate impostors, or to forget that their studies, however ill-directed, were blessed by Providence to be eminently useful, and that medicine was armed from their laboratories, with many of her most potent and valuable agents.*

According to Basil Valentine's theory, the effect of the philosopher's stone upon the inferior metals, was to vary the proportions and arrangements of their three elements in such a manner as to bring them exactly to that condition of quantity and combination which is found to exist in gold.† Admit his postulates, that the metals are compound bodies, and that they all consist of the same ingredients, and there is no reason to think that it would be more difficult to change one metal into another than it is now to convert linen rags into sugar. In common with the other alchymists, our author sinned against right reason, when he assumed as true what he was not able to prove; and he appears to have sinned still more grievously against honesty, when he pretended to have attained the great object of his labours. But before we condemn him, we should recollect, that it is possible for a wise man to become an enthusiast and to deceive himself, and for a good man, if an enthusiast, to endeavour to deceive others; and that so distinguished a benefactor of science is well entitled to the utmost benefit of this consideration.

The cant and jargon of alchymy, as we said before, pervade the whole of his work. For the unintelligible and unmeaning gabble with which it abounds, the commentator apologises by informing us that it was not intended to be understood except by those who are thoroughly devoted to

A similar consideration convinced old Ennius of the profligacy of the numerous pretenders to secret arts who abounded in his day;—

> "Quibus divitias pollicentur, ab iis drachmani ipsi petunt,
> De his divitiis sibi deducant drachmani, reddant cœtera."*

It was probably to evade this obvious censure that Basil Valentine so frequently alludes to his own wealth. P. 102, &c. Various excuses were devised by other alchymists to explain the incongruity of their boasts with their visible circumstances. One which appears to have been common among them is stated by Chaucer in his *Chanones Yemannes Tale*—

> ——"by their thred-bare array,
> If that men list, this folk they knowen may,
> And if a man wol axe hem prively,
> Why they be clothed so unthriftily,
> They right anon wol rounen† in his ere,
> And saien, if that they espied were,
> Men wolde hem sle, because of hir science:
> Lo, thus thise folk betraien innocence."

* Lord Bacon, after ranking alchymy among those arts "quæ plus habent ex phantasia et fide, quam ex ratione et demonstrationibus," remarks with his usual felicity of illustration, "Chemicæ tamen hor certe debetur, quod vere comparari possit Agricolæ apud Æsopum, qui, e vita exiturus, dixit filiis, *Se illis vim magnam auri in vinea, nec tatis meminisse quo loco, defossam reliquisse:* qui cum vineam diligenter ligonibus ubique invertissent, aurum quidem repererunt nullum, sed tamen vindemiam insequentis anni, propter fossionem circa radices vitium, tulerunt longe uberrimam; *sic* strenni illi chemistarum labores et molimina circa aurum conficiendum, haud paucis nobilibus inventis et experimentis, tum ad reserandam naturam, tum ad usus vitæ apprime idoneis, quasi facem accenderunt."—*De Augmentis Scientiarum*, L. i.

† Page 108, &c.

* Quoted by Cicero, *De Divinatione*, L. i, c. 58. † Whisper.

the study of science;* pearls are not to be cast before swine, nor mysteries revealed to any but the sons of art.† "It would be improper for me," says Basil himself, "to speak so plainly that whoever thought fit might without labour and weariness become a perfect doctor by merely looking into my writings; youthful rustics are not to be supplied with white bread, until they have toiled for it and earned it."‡ Yet his instructions, he subsequently declares, are so ample, clear, and distinct, that they could not be rendered more so without unpardonable sin: the public revelation of the secrets of art has been strictly forbidden by Providence,§ and to violate this prohibition would be to precipitate himself willingly and with open eyes into the regions of eternal misery—a sacrifice not to be expected of him.‖ He sometimes affects great contrition and dismay for having spoken too freely. "My God!" he exclaims, "how am I agonized in mind, when I consider my religious character, and know not whether I am doing well or ill in this publication, whether I have said too much, or been silent too soon."¶ "It is wonderful," says Dr. Kerckringius, "that no man can throw the least ray of light upon this part of philosophy, without immediately feeling the stings and arrows of conscience."** The proper reply to all this affectation and folly is contained in the words of Mr. Boyle:—"As for the scruple of the mystical writers to communicate their knowledge, they might, less to their own disparagement, and to the trouble of their readers, have concealed it by writing no books, than by writing bad ones. It were a temptation to say, that the chemists write thus darkly, not because they think their notions too precious to be explained; but because they fear, if they were explained, men would discover them to be vain and frivolous."††

Besides the philosopher's stone there was another preparation, which Basil speaks of under the name of *the stone of fire*, very inferior to the former, for it produced no effect upon tin, lead, iron, or copper; but yet not wholly contemptible, as, besides its remarkable medical virtues to be mentioned hereafter, it possesses the faculty of converting silver into gold. This stone of fire, Dr. Kerckringius asserts that he himself knew the art of preparing; but of the composition of the other stone, he confesses that he had been unable with his utmost efforts to acquire the least knowledge.‡‡

If we are late in mentioning antimony, which, from the title, might be thought the peculiar subject of the present work, we have, in this respect, followed the example set us by the author. Through a great part of the treatise antimony is not referred to, and when it is occasionally brought on the carpet, Basil's attention is continually deserting it and engaging in the discussion of other subjects.

This apparent neglect is by no means to be attributed to any low esti-

* Page 75, *note.* † Pages 160, 308, *notes.* ‡ Pages 231, 298.

§ This was a common subterfuge with the alchymists, as we learn from Chaucer:

> "The philosophres were sworn everich on,
> That they ne shuld discover it unto non,
> Ne in no book it write in no mannere;
> For unto God it is so lefe and dere,
> That he wol not that it discovered be,
> But wher it liketh to his deitee
> Man to enspire."—*Chanones Yemannes Tale.*

‖ Page 337. ¶ Page 336. ** Page 336, *note.*

†† Boyle's Works, vol. iii, p. 303. ‡‡ Page 315, *note.*

mation of its value. He declares most solemnly, and confirms his assertion by an oath, that it is the most sovereign of all medicines, and will never be equalled by any other that shall ever be discovered under heaven or below the sun. He affirms, that in it are embodied all the virtues of all the other metals and of all the precious stones; that the life of man is too brief for any one person to discover all its excellencies; and that the Delphic Apollo himself would be fatigued and exhausted, were he to attempt to describe all its numerous and inestimable preparations.*

The honour of having first recommended the internal use of a remedy thus admirable, is very generally assigned to Basil Valentine.† It is probable, however, that he is not entitled to it in a strict and absolute sense, for he informs us himself that much had been written before his time on the mode of preparing and using it.‡ Yet it appears to have been a very unpopular medicine when he wrote, violently denounced by physicians, and in no good repute with any one,§ a circumstance attributable, he assures us, to the malice of the devil, the perpetual enemy of true science, who is ever exerting his utmost efforts, both of fraud and violence, to blast the character of all valuable medicines.‖ From the low condition to which this evil spirit had reduced it, it was elevated into public favour by our author's earnest and energetic commendations, and to have effected this change reflects more credit upon him than he could have derived from

* Pages 115, 131, 134, 113.

† He is said to have discovered its salutary properties by observing its effects upon some swine who had accidentally taken it with their food. He says nothing of this in the present work, but recommends to housekeepers, as a valuable precept in domestic economy, to commence the process of fattening swine or other animals, by giving them for two or three days free doses of antimony.—P. 187.

‡ Page 112.—The earliest mention which occurs in books of nearly all of the most important medicines, represents them as being already in popular use, their efficacy having been previously discovered by casualty, or by experiments suggested by the lucky conjectures of the vulgar. Medicines were probably extremely numerous at a very early period. Homer speaks of their great abundance in Egypt, (Odyssey, l. 4, v. 229,) and Cicero admires at their extraordinary number in his time: "Mirari licet quæ sunt animadversa a medicis herbarum genera, quæ radicum ad morsus bestiarum, ad oculorum morbos, ad vulnera."—*De Divinatione*, l. 1, c. 7. It is but an ill evidence of the advance of our art, that they are probably as numerous now as they were in the days of Polydamna or of the Roman orator.

§ Pages 114, 115.

‖ This opinion is widely different from one subsequently declared by Paracelsus. That most brilliant of mountebanks, adopting the classic sentiment, "flectere si nequeo superos, Archeronta movebo," publicly asserted, that when medical knowledge could be obtained in no other way, it was proper and advisable to resort to the devil as a teacher well inclined and amply competent to afford us assistance. He held with Ralpho in Hudibras, that

> —— "Physicians may allege,
> For any thing their privilege,
> And to the dev'l himself may go,
> If they have motives thereunto."

Basil, on the contrary, being, as he often states, a *religious man*, maintains the policy of the more cautious Sidrophel—

> "I assure you, for my part,
> I only deal by rules of art,
> Such as are lawful, and judge by
> Conclusions of philosophy;
> But for the dev'l, know nothing by him,
> But only this, that I defy him."

the accidental circumstance of being the first person by whom it was used. He also deserves great credit for the variety and novelty of his experiments upon it, and for its many valuable preparations which he invented.

Basil speaks copiously of the various names, *asinat*, *stibium*, *antimony*, and *spiesglas*, by which his favourite metal was designated among the Arabians, Chaldeans, Romans and Germans; and argues from them with no great clearness of logic, that it was not only known to those several nations, but also in high repute among them for its medical virtues.* The etymology of its common name, *antimony*, from the fatal results of his own use of it upon his monastic brethren, *ἀντι μονοχους*, *monks' bane*, he had probably never heard of, and would no doubt have indignantly denied its historic propriety.† This etymology, which is given by Dr. Paris,‡ and many less recent writers, is indeed more plausible than accurate. The word *antimony* was in use long before monks were either killed or cured by Basil Valentine, and is derived from *ἀντι μονον*, *enmity to solitude*, from the fact of antimony being rarely found by itself or unmixed with some other metal.

The combinations of antimony, devised by our author, and recommended in the *Currus Triumphalis*, are numerous and ingenious. The agents which he used in forming them, are for the most part heat, nitric acid, vinegar, spirit of wine, borax and sulphur. In praise of these preparations he discourses with voluble and fervent eloquence. His style in this part of his treatise is not a little similar to that which glows in the compositions of those great benefactors of the human race, the venders of panaceas, who do exceedingly abound and flourish in the scientific nineteenth century, and whose valuable dissertations occupy nearly one half of all our newspapers, and are read with infinite satisfaction and profit by our fellow citizens in "this most enlightened country on the face of the globe." Three or four grains of the sulphur of antimony dispel lepra and syphilis, *purify the blood*, remove melancholy, conteract all manner of poisons, and cure asthma and pleurisy.§ The distilled oil of antimony is capable of effecting every indication that a physician can in any case wish to see accomplished.‖ The fixed powder of antimony produces a new growth of hair, and perfectly renews the whole body.¶ The oil of antimony is an admirable remedy in those cases where the patient has no hope except from God's mercy, and where his only prospect is speedily to exchange life for death.** It renews the person who takes it as if he were made over again; it banishes melancholy and sadness of heart, strengthens the limbs, and improves the memory. The liquor of sulphur of antimony, applied to recent wounds, acts with all the marvellous potency of Don Quixote's immortal balsam of Fierabras, preventing suppuration and inflammation, and occasioning immediate reunion.†† The oil of mercury and antimony is useful against apoplexy, comforts the brain, and makes him who uses it industrious. To cure the syphilis is mere sport to it—*ludus est*—and its virtue and efficacy are too great to be ade-

* Pages 76, 77.

† He frequently boasts of the signal success of his practice upon his companions in the monastery, pages 199, 277, &c. Their souls, he says, he physicked with sermons, and their bodies with antimony, page 30.

‡ Pharmacologia, vol. i, p. 70.

§ Page 154.

‖ Page 163.

¶ Page 193.

** Pages 243, 244.

†† Page 156.

quately told either by the tongue or the pen.* But the glory of all other medicines is eclipsed by the prepared, fixed, solid tincture of antimony, or *stone of fire*, which we have mentioned before. The stone of fire, exhibited in spirit of wine in a single dose of three or four grains, removes every disease; it pervades all parts of the body, cures vertigo, maladies of the lungs, difficulty of breathing, cough, lepra, syphilis, plague, and jaundice; it is an antidote against every poison; it corroborates the limbs, the brain, the stomach, and the liver; it heals all diseases of the kidneys, grinds stones in the bladder to powder, restores the vital spirits, dispels hysteria, is the best of emmenagogues, and the most profuse of aphrodisiacs. Applied externally, it subdues cancers, fistulas, caries of bones, *noli me tangere*, and all affections arising from impurity of the blood. It is, in short, a remedy for every disease that can assail the human system, and any one may easily ascertain its value by experiments, *provided* he be a true physician, and called to his sacred office by the voice of God.† The most extraordinary property of this medicine—But, Ohe, jam satis!

"Our excellent author," says Dr. Kerckringius, "has been too reserved, and too parsimonious of eulogy in describing the powers of his inestimable remedies. Such was the excess of his modesty, that he dreaded lest he should appear in bestowing praises on them to be commending himself."‡

Yet his supply of this amiable quality, however abundant it may have been, was probably neither unlimited nor inexhaustible. We forget whether Plutarch in his treatise upon the occasions on which it may be proper for a man to praise himself, has particularized the case of a writer speaking of his own works, or of a physician publishing a detail of the success of his professional labours. If he has not, our author appears to have been in nowise restrained by the want of his venerable sanction. Of the extreme value of his writings he was evidently perfectly aware, and also well inclined to embrace the counsel of the Sabine poet, "sume superbiam quæsitam meritis," and to assert his just claim to gratitude and reverence. "I acknowledge," he says, "that I am but a pupil in the science of antimony, yet what I have seen, learned, and discovered in it is more than is known, or ever will be known, to all the physicians on the earth, and to all who resemble them.§ If the student acquires from this work the knowledge which he seeks, let him give thanks first to God and next to me; but if he wanders astray, it is his own fault; I am innocent; his errors must be imputed to himself.‖ Let him not read my book in a careless or perfunctory manner; no letter in it has been traced in vain, no syllable has been written without some peculiar and instructive meaning; its words are more precious than coined gold, and the wiser the reader is, the oftener will he revolve its pages.¶ To the blind and ignorant my writings will afford no light, to the young and inexperienced no instruction, but to such as are qualified to be my disciples and apostles, health in perfection and perpetual prosperity.** Let all who truly hunger and thirst for knowledge, hasten to me with a cheerful heart, a good conscience, and full confidence. Let them hear my instructions, weigh my precepts, adopt my doctrines, and possess themselves at once of their heart's desire,

* Pages 253, 254. † Pages 314, 338, 341. ‡ Page 163, *note*.
§ Page 44. ‖ Pages 299, 337. ¶ Pages 59, 262, 263.
** Page 219.

of true wisdom and lasting happiness. Then shall I reap the ample reward of my toils from the devotion of my followers. My philosophy will be defended not only by my own writings, but also by their living eloquence. Their gratitude will raise my memory triumphant over the tomb that enshrines my body, and their commemoration of my praises will be as lofty and perdurable as the starry fires that blaze for ever in the firmament of heaven."*

Alas, for human hopes, and the expectation of posthumous renown! The stars still shine as brightly as when they first sang together, but nowhere beneath their beams can that school of grateful followers of Basil Valentine be discovered. We hear no deafening celebration of his merits; his glory, if it ever existed, has waxed old as doth a garment, and has well nigh passed away; his work on antimony is rarely read, and the few who are at the pains to examine it are more surprised than profited by its contents. It tells them a tale that blends its author's honours with his shame, and they lay it down with some gratitude for his services to medicine, some doubt of his sanity, and much uncertainty respecting his honesty. In writing this account of its contents, we have endeavoured to treat his memory with kindness, from reflecting that the good which he did lives after him, while the evil of which he was guilty has been long buried with his bones. And we have expressed the less contempt for his philosophy, because we fear that the best medical science of the present day, should it chance to be known three hundred years hence, will stand greatly in need of indulgence and pardon. S. C.

* Page 37, &c.

BIBLIOGRAPHICAL NOTICES.

ART. XV.—*Récherches Anatomiques, Pathologiques, et Thérapeutiques sur la maladie connue sous les noms de Fièvre Typhoïde, &c.* 2eme edition, considérablement augmentée. Par P. C. A. LOUIS, Paris, 1841.

Anatomical, Pathological, and Therapeutic Researches, concerning the disease known by the name of Typhoid Fever, &c. 2nd edition, considerably enlarged. By P. C. A. LOUIS. Two vols., pp. 534, and 516. Paris, 1841.

THE appearance of a new edition of this celebrated work, will be hailed with satisfaction by all who are familiar with the original edition—who have taken an interest in the discussions to which it gave rise—and who are aware of the important influence it has exerted upon the study of febrile diseases, and of the surprising degree of exactness which it has introduced into this department of medical observation.

The principal additions made in the edition before us, consist of the detail of new facts regarding the symptoms and lesions in typhoid fever, as well in infants, as in adults; of important considerations touching the differences between it and typhus fever, and camp-fever; of an entirely new chapter on the prognosis of the disease; of a review of the several modes of treatment recommended; and, finally, of a succinct sketch of the features of resemblance and contrast which typhoid fever presents, when compared with other acute affections.

The softening of the mucous membrane of the stomach and of the intestinal canal, unaccompanied by redness and thickening, and that also of the liver and the heart, observed in very many of the fatal cases, are subjects of investigation in the first part of the work.

The influence of temperature, and of decomposition after death, in producing this alteration of structure, is examined in regard to each of the organs in its turn, and, in addition, the action of the liquids and solids contained in the digestive tube, upon its lining membrane. The general induction from all the facts in the case is, that none of these causes, either singly or combined, is sufficient to account for the lesion in question, but that the softening of the liver and heart *may in part* depend upon an elevated temperature favourable to decomposition, provided that its influence *before death* be admitted. If we might venture an opinion, it would be, that the dissolution of the blood, and its imbibition by the solids, would more readily account for their diminished consistence. Because, 1st. This change in the circulating fluid is noted in those cases in which the softening of the organs was remarkable; 2d. The same relation is stated to have been found in those dying of other acute diseases; 3d. The correspondence is constant in typhus fever. It is true that M. Louis hints obscurely at this cause, but does not anywhere examine numerically the relative frequency of the fluidity of the blood, and of diminished firmness of the solids, in the same class of cases.

Two varieties of alteration of Peyer's glands, are noticed at some length, and a distinction is made between the "hard" and the "soft," as if these characters were referrible to different causes, and were essentially distinct from each other. It will be remembered that the former, or hard variety, was found in patients who died in the early stage of the disease, and where this latter was peculiarly violent, while the soft glands existed only in those who were carried off at a late stage of the malady. As the only real difference between the two varieties of glands consisted in their greater or less degree of softness,

would it not be more agreeable to sound reasoning to conclude that this difference depended merely upon the period of the disease at which the patients they were observed in died, and that the alteration was a progressive one, and passed successively through the stages of hardening, softening, and ulceration? However this may be, it is not easy to understand the purport of the question propounded by M. Louis, and answered by him in the affirmative; to wit, "May there not be more peril attached to these glands (the hard) than to the soft ones?" For in the present state of our knowledge, the condition of the abdominal organs in typhoid fever, does not count for anything among the causes of death, excepting always the case of perforation of the intestine, an accident which does not appear to depend upon any particular original condition of the gland in which it occurs, and which usually takes place during the decline of the symptoms, and even after the commencement of convalescence.

The portions of the present edition relative to the typhoid fever of children, are drawn from the works of M.M. Rilliet and Taupin, internes of the Children's Hospital, and both distinguished for the fidelity and completeness of their medical observations. It must have been a matter of no slight satisfaction to M. Louis, to have recognised in the analysis of the cases of these observers, an almost exact counterpart of his own, although relative to patients at so different an age, and under such dissimilar circumstances. There is hardly any proposition true of typhoid fever in adults, which is not equally so of it in those of tender years, whether as regards its symptoms, or its pathology. This, it is hoped, will be a sufficient excuse for not entering further upon the subject in the present notice.

In the chapter on "the state of the blood" in typhoid fever, M. Louis calls in question the assertion of Prof. Bouillaud that the blood abstracted in this disease cannot be said to resemble that existing in any other, while he admits with this gentleman and M.M. Andral and Gavaret, that the blood is generally less coagulable in this, than in other diseases.

In the course of a very interesting article on "Diagnosis," the author thus expresses himself, giving us in a few words a most accurate portraiture of the disease under consideration. "Thus, youth, a more or less marked febrile reaction, headache, *malaise*, an altered expression of countenance, a greater or less degree of feebleness, the partial and then complete loss of appetite, and subsequently, diarrhœa, delirium, and somnolence, are not sufficient of themselves, in the abscence of any local symptom at the outset, to establish the existence of typhoid fever. In order to do so, we must be able to add to these symptoms, diarrhœa and abdominal pains in the beginning, and afterwards, sooner or later, either tympanitis, or the enlargement of the spleen, or the presence of the lenticular rose-coloured spots, and the impaired functions of the organs of the senses. Nevertheless, the absence of diarrhœa would not render the diagnosis of the affection less certain, especially if the other symptoms just enumerated were present." If the remarks just quoted were kept constantly in remembrance, we should have fewer complaints about the difficulty of detecting this disease, and less frequent errors in regard to the treatment which it demands; for how can our treatment be rational while our diagnosis remains doubtful?

In the fifth article of part third, the author considers the following question: "Are camp-fever and typhoid fever one and the same disease?" The memoir of M. Gaultier de Claubry, presented to the Royal Academy of Medicine, affords the principal means of solving it. According to the researches of this physician, the fever of camps and armies, called by the French, "*typhus*," is identical with that described by M. Louis; a conclusion admitted by the latter, in these words, "these descriptions, although in truth very incomplete, appear nevertheless to confirm, as far as they go, that which a comparative study of the symptoms pointed out, to wit, the *identity of* '*typhus*,' and typhoid fever."

Although M. Louis considers the researches of M. de Claubry as having settled the question in the affirmative, others might, perhaps, hesitate to accord to them an equal importance, for the memoir of M. Montault, upon the same theme, presented also to the Royal Academy, makes a very different inference

from the same facts. This author expresses himself as follows: "The lesion of the small intestine, has a fixed seat, it begins with the disease, and accompanies its progress; it is not proved that such is the case in 'typhus.' The alterations of the blood and of the nervous centres are *primitive* in 'typhus,' and *secondary* in typhoid fever. The primitive change in the characters of the blood in 'typhus,' depends upon a cause external to the organism, but in typhoid fever the intestinal lesion represents a centre of infection, which alters the blood secondarily." It would indeed seem most probable that the writers who furnished grounds for such dissimilar conclusions, described two different affections, just as it is now proved that English authorities have done hitherto; and we strongly suspect that future observations will show, that typhus and typhoid fevers both exist on the continent, as they certainly do in Great Britain, and that they continue to be confounded in the one place as well as in the other.

In the succeeding article, the typhus fever (of the English) and the typhoid affection, are compared, with a view of determining their differential diagnosis. And here we have the gratification of observing that the observations of Doctors Gerhard and Pennock, and of Dr. Shattuck, Jun., of Boston, are assumed as a basis for settling this mooted subject, and a just appreciation made of their important labours in regard to it. After comparing the symptoms and the *post-mortem* appearances in typhoid and in typhus fevers, the author says, "It is then but natural that in those who die of the first disease, there should be found a lesion of Peyer's glands, absent in the other; and it would be marvellous indeed if the small intestine presented the same changes in two affections, whose symptoms are so essentially different."

In a new, and very interesting chapter on the *prognosis* of typhoid fever, the author examines the value of each particular symptom relatively to the result; whence it appears, that all those symptoms arising from the abdominal organs are of but small importance in calculating the probable termination of the disease, while on the other hand the greater or less degree of somnolence, delirium, agitation, perverted intelligence, spasmodic movements and permanent stiffness of the limbs, in a word, of the cerebral symptoms, must be held as the best indications of the safety, or of the peril of the patient. Yet the evidence, even of these phenomena, is to be received with extreme caution, since, with the exception of "permanent stiffness of the limbs, and that perverted consciousness which makes a patient declare that 'he is well,' although dangerously ill, there is no symptom, however formidable, which is not occasionally met with in those who recover." It would appear, also, that in children, the same elements of prognosis are to be weighed, as in adults, but that the mortality amongst the former is sensibly less than amongst the latter class of patients; a proposition true of acute diseases in general.

The chapter upon "Causes," contains an article upon the influence of "change of habits" in the production of typhoid fever. It has been generally supposed that persons coming from the country into a large city, were more apt to be attacked by the disease than native citizens, or those long resident therein, and the influence of this change has been emphatically asserted in regard to the labouring classes of Paris, whose ranks are constantly recruited by new arrivals from the provinces, and whose nourishment is usually both scanty and of bad quality. M. Louis admits the fact of the very frequent occurrence of typhoid fever in individuals of the class referred to, but doubts whether bad or insufficient food ought to be held as favouring the development of this, rather than of any other disease.

Contagion.—The author declares, that "the contagious nature of typhoid fever appearing to be proved by facts, he admits it without hesitation." These facts have been observed and recorded by several physicians, and especially by M. Bretonneau, some of whose conclusions are sufficiently important to be recited in this place. He believes it to be demonstrated: 1st. That typhoid fever may be communicated by contact with those affected by it, by remaining near them, by means of the clothing, &c. they have used, and by contact with those who have attended upon them. 2d. That the importation of the disease is often the

origin of an epidemic; and that this latter is the effect and not the cause of the contagion. 3d. That the propagation of the malady depends upon the degree of intercourse maintained with the sick, and not upon the wretchedness or the insalubrity of their habitations. 4th. That an isolated case of the disease may become the cause of its prevalence, &c. M. Gendron also asserts, that a first attack preserves from a subsequent one. The contagious character of typhoid fever, is not so well establishsd by the observations made in Paris, but M. Louis granting that such is the case, asks, very pertinently, "how can we admit that the same disease should be contagious at Tours, and at Château-du-Loire, and not at Paris? Perhaps, after all, the truth may be, that the advocates as well for, as against contagion, may both be right, that the disease may, under certain circumstances, be spontaneous in its origin, and in others the effect of contagion. Is not this commonly admitted to be true of measles and scarlet fever?

The most considerable, and perhaps the most important additions that have been made to the original work, are those relative to the *treatment* of typhoid fever. Critics and readers have very often raised their voices in condemnation of M. Louis, because in the former edition of his work, he had not introduced as much certainty into the therapeutics of typhoid fever, as he had into the history of its symptoms, and morbid anatomy; forgetting the good he had done, they were ready to blame him for that which he had not accomplished; forgetting, moreover, that the question of treatment in any disease, is a problem, requiring for its solution, the comparison and valuation of an infinite number of elements very intricately involved, and a labour and a clear-sightedness far superior to those needed in the study of the natural phases of disease. It is so easy to say that such or such an agent is *good* in a particular disease, it costs one so little self-denial, or devotion to science, it demands so little accuracy of observation, so little freedom from the dominant prejudices of the time, to write whole volumes upon therapeutics, as they are commonly written, that it is hardly to be wondered at, men should cry out at seeing a systematic treatise on fever, nearly barren upon the subject of treatment, while so rich in every other part. It may, indeed, be true, that thorough analysis, and logical induction, are inapplicable to the facts upon which every question in therapeutics must be determined; there are those who think so, and who despair of ever advancing much farther towards perfecting the treatment of diseases, than through the accumulation of evidence by that method so wronged and misnamed, when it is called *experience*. If, therefore, we find little that is susceptible of application to the treatment of disease, in works founded upon a minute observation of facts, and upon their philosophical analysis, we should rather impute the defect to an inherent difficulty in the subject, than to negligence, an undue disregard of its value, or a want of ability on the part of the author.

In the present instance, however, M. Louis has detailed all that has come within his knowledge, of the best mode of conducting the treatment of typhoid fever, although he compares the several methods proposed relatively only to their influence on the mortality of the disease. This is indeed the most important relation in which they can be considered, but not the only one; for it is often in the power of art to lessen the violence of symptoms whose duration it cannot shorten, and to alleviate the sufferings of patients whose destruction it cannot avert. In the article on "Bleeding," the author takes occasion to examine the reports of M. Bouillaud, who, as is well known, claims to have been singularly successful in the employment of a method of depletion called by him "*coup-sur-coup*," or, as we might translate it, "*hand-over-hand*." It is shown that M. B. selected for experiment only those cases brought under his notice at the commencement of the affection, and that not a few of them were far from being cases of typhoid fever. After allowing for these circumstances, it is made abundantly evident, that, on the whole, the mortality in the wards of M. B. was really greater than elsewhere, and that the average duration of the disease in those who recovered under his care, was not less than that observed by other practitioners. The thirty-four pages devoted by M. Louis to this matter

are well worthy of study as a specimen of critical acumen, and an admirable illustration of the power of analysis to develop truth.

We pass over two very copious and interesting chapters on the use of purgatives (*evacuants*) and opium, in order to give a summary of the author's general views in regard to the treatment of typhoid fever. "It has been seen," says M. Louis, "by what has gone before, that the superiority of purgatives, as a general method of treating typhoid fever, is not yet incontestably proved; we may not, therefore, in the present state of our knowledge, recommend the administration of purgatives, to the neglect of depletion. In resorting to the latter, the following seems to be the best method of employing it. General bleeding should be preferred either to leeching or cupping, it should be moderate, should be had recourse to in the first ten or twelve days of the disease, and be proportioned to the febrile condition and the strength of the patient; it should be repeated twice in the period just indicated, when it can be borne. After the first fifteen days in severe, and earlier in mild cases, the loss of blood retards convalescence rather than hastens it. This proposition should be modified, however, by a regard to the strength of the patient, of which the physician should never lose sight, for the danger and severity of acute affections are proportioned to the real debility of the patients; and this debility is favourable to the development of secondary lesions.

Acidulated drinks, (*boissons aigrelettes,*) and especially those which contain carbonic acid, should be used in the treatment of typhoid fever. A weak solution of chloride of lime or soda, may perhaps be tried with advantage instead of the carbonated waters. Emollient enemata may be prescribed in all stages of the disease, once a day in the beginning, and when, at a more advanced period, the stools become more frequent, and the colon seems to share in the inflammation of the intestines, they should be repeated several times daily, and each one retained for eight or ten minutes at a time. In this advanced stage, when the patient is in danger of sinking, exhausted by the quantity of his alvine dejections, small opiate enemata should be substituted. In the first periods of the affection the sick-chamber should be kept at a moderate temperature; cold is less to be dreaded than heat, although care should be taken lest the former become excessive, and the cough increased, or a pneumonia excited.

If, for any reason, purgatives should be preferred to bloodletting, recourse should be had, in the conditions pointed out by M. De Larroque,* to tartar emetic given in a large quantity of drink, for the purpose of evacuating the stomach. *Daily* thereafter should be administered a certain quantity of Seidlitz or Pullna water, or laxative doses of castor oil, or calomel, so as to procure five or six stools a day. To these agents should be added emollient poultices upon the abdomen, (should it be painful,) acidulated drinks, and mucilaginous injections night and morning. This treatment should be persisted in as long as the typhoid symptoms continue, and when once the febrile reaction has ceased, mild tonics should be given to hasten the return of strength.

The utility of opium in this disease appears to our author to be confined to the single case of perforation of the small intestine, when it should be given in full dose, and repeated so long as the violence of the symptoms may demand it. While taking it the patient should be restricted to the least possible quantity of acidulated drinks, or to the use of some small pieces of ice. If there should be constipation, prudence would require that all attempts to overcome it should be suspended until the danger was at an end, and even then evacuations should be procured only by enemata, at first emollient, and afterwards in case of the failure of these, slightly purgative.

"It results from all that precedes," says M. Louis, "that the principal therapeutic agents now employed in the treatment of typoid fever, have a favourable,

* One of the physicians of the Neckar hospital, who first published the results of his treatment of the typhoid fever by evacuants, in 1837, in the Medical Journals of Paris, and in a memoir presented during the same year, to the Royal Academy of Medicine.

although a limited influence upon the course and the issue of the disease; and the impartial examination of evidence teaches us, with a sufficient degree of precision, the best mode of availing ourselves of the three chief means which experience has pointed out to us, viz. bleeding, purgatives and tonics. Moreover the very partial success obtained hitherto, ought not to discourage the friends of science, and strengthen the belief that no better mode of treatment for the disease in question will ever be discovered. Who could ever have foreseen the effects of opium, or of cinchona, or the protective virtues of vaccine? What opportunity and observation have done already, they may do again, and therapeutics, like other departments of science, has every thing to expect from observation."

The appropriate treatment for typhoid fever in children, is nearly the same as in the case of adults, unless indeed blood-letting be more generally hurtful than salutary for the young, to whom very active remedial measures are rarely applicable.

The concluding chapter of the work before us treats of "the analogies and differences existing between typhoid fever and other acute febrile diseases." The typhoid, like other acute inflammatory affections, usually commences with a more or less active febrile paroxysm, a chill of variable duration, followed by heat and sweating, but in the former disease this paroxysm more frequently recurs, and is accompanied by pains in the limbs, headache, and a remarkable feebleness. To these symptoms are immediately superadded pains in the abdomen, and liquid stools. In other acute affections the number of symptoms is small, while in typhoid fever they are, so to speak, infinitely various, and the whole economy suffers, whether the attack be slight or severe. Thus in the abdomen we have almost always tympanitis, and enlargement of the spleen, and sometimes paralysis of the bladder, bloody evacuations, and painful deglutition. In the chest a moderate cough, and a sibilant ronchus, without oppressed breathing. Depending on the brain, an indisposition to the exercise of the mind, dullness and coma, restlessness, delirium, spasms, *subsultus tendinum*, and spasmodic rigidity of the limbs. The sight is dim, the hearing dull, and occasionally lost, there is buzzing in the ears, and bleeding at the nose. The skin displays its rose-coloured spots and sudamina.

The duration of typhoid fever differs from that of eruptive and acute febrile diseases in general, inasmuch as these latter generally run through all their periods in less than a fortnight, the *earliest* date at which M. Louis has seen a case of the former enter on convalescence. Its duration is also without fixed and natural limits, while eruptive diseases regularly pass through distinct stages of ascertained length.

"Admitting the contagious nature of typhoid fever, which it possesses in common with the *exanthemata*, it differs from these latter in sometimes arising spontaneously." But are there not many cases of eruptive fever whose contagious source is very doubtful?

The lesions of typhoid fever commence uniformly in the same point, while those of other acute diseases set out sometimes from one, and sometimes from another portion of the affected organ, and the anatomical character of the *exanthemata*, the eruption, breaks out in nearly every part of the body at the same time.

Finally, neither in those diseases already mentioned, nor in cholera, nor in typhus fever, nor in yellow fever, are to be found ulcerations, which in the typhoid affection occur not only in the intestinal canal, but in the œsophagus, on the epiglottis, and in the larynx. A. S.

ART. XVI.—*Second Annual Report of the Registrar-General of Births, Deaths, and Marriages in England.* London: 1840. 8vo. pp. 240.

THIS volume is one of a series which will be eagerly sought after by those

interested in vital statistics. The present one* contains, 1st. The Report of the Registrar-General, T. H. Lister, addressed to the Marquess of Normanby, principal Secretary of State for the Home Department, accompanied by abstracts exhibiting in tabular forms, records of the marriages, births and deaths, not only for the metropolis and larger towns, but in the rural districts of England and Wales. 2dly. An appendix, showing the causes of death in England and Wales, in the form of a letter, addressed to the Registrar-General, by William Farr, Esq., dated London, June, 1840. It is this last abstract which will be viewed with the deepest interest by the investigator of vital statistics, since it embraces no less than 342,529 registered deaths, of which, the number having the causes assigned, amount to no less than 330,559. It will not, of course, be in our power to notice all the interesting facts developed in Mr. Farr's very rich communication, and we shall, therefore, content ourselves with referring to a few which we hope will prove acceptable to our readers.

Mortality of Males and Females.—In Great Britain, as well as other countries, it is observed that the mean duration of life is greater for females than for males. The mortality of males is shown by Mr. Farr to exceed that of females by seven per cent. The tables exhibit the principal diseases which lead to this result; and show that while the two sexes are concurrently exposed to the ravages of nearly all the causes of death, their degree of liability to death from particular maladies is very various. "The discrepancies," observes Mr. Farr, "may be ascribed to two sets of causes; a difference of organization, and a dissimilarity of habits and occupations, involving different degrees of exposure to the accidents, hardships and dangers of life. Deaths from childbirth, and deaths from violence are examples: 2811 women died in childbirth, while 8359 males and only 3368 females died violent deaths. The higher mortality, and the smaller number of males living, have been ascribed exclusively to intemperance, wars, excessive fatigue, and other external causes; but this ground is too narrow; for the differential mortality is greater in early childhood and before birth, than in the more advanced ages, and one of its causes must be sought in the intimate structure and properties of the body. The blood, the brain, and all the organs and functions present modifications in the two sexes; but I am not aware that any anatomical or physiological reason has been advanced to explain the singular facts, that 620 males and 1828 females died of cancer; 4036 males and 5071 females of hooping-cough; 27,935 males and 31,090 females of consumption; 4242 males and 3430 females of hydrocephalus; or 152 males and 55 females of diabetes."

This subject has been investigated by us, as will be seen by reference to the pages of this journal,† and we believe we were the first to identify the distinct sources of the different proportions of deaths among males and females, and the classes of diseases which proved most destructive to each, and to show that the excess in the mortality of males, more particularly under the ages of fifteen and twenty, was not the result of greater exposure to accidents, but arose from physiological causes; and chiefly those involved in the higher grades of inflammation.

Increased consumption of ardent spirits.—Among the causes operating in producing mortality, Mr. Farr alludes to the consumption of intoxicating liquors, which he says has increased faster than the population in the last twenty years, and the sale of spirits at a much more rapid rate than that of ale and wine, which last can only be injurious when taken to excess. This he proves by referring to the average annual number of bushels of malt on which duty was paid in England, which in the five years, from 1820 to 1824, inclusive, amounted to 25,834,345; in the five years from 1834 to 1838, inclusive, the consumption was 35,048,368 bushels. "Spirit drinking," he observes, "almost always ends in impairing the health; it takes away the appetite, wastes the limited means of the artisan, deprives his family of food, firing, clothing, and clean ventilated

* The first report was noticed in our number for January 1841, page 192.
† See No. for Nov. 1835, p. 56.

lodgings; leads to dissoluteness of every kind; and must therefore be considered one of the indirect, but certain causes of epidemics, of fevers, and of other diseases."

Comparative mortality of towns and rural districts.—The investigation of the subject of the comparative mortality of diseases in towns and the open country, presents many very interesting points. The population in 1838, of the metropolis, and what are called city districts, is stated at 3,726,221; that of the rural districts being 3,539,908. The mortality of the metropolis and twenty-four towns, was 101,019, whilst that of the rural districts was 70,410.

In the whole of England and Wales, the mean mortality under three years of age, was 343 out of every 1000 deaths at all ages. Although, as a very general rule, the mortality of children is greatest in large towns, it is singular that in the metropolis the proportion is so small as 338 out of every 1000 deaths at all ages. In Manchester, the deaths under three years amount to 496 out of every 1000 males of all ages, being about fifty per cent. of the general male mortality. The mean deaths of children under three years, in Manchester and Salford and suburbs, were 475 out of 1000 deaths. In Leeds and its suburbs, the proportion was 447; in Birmingham, 440; in Liverpool and West Derby, 437; while in Dorsetshire and Wiltshire, it was 281; in Devonshire, 296; in the North Riding of Yorkshire, with Durham, (except the mining parts,) and the northern part of the West Riding, 282; and in the northern part of Lancashire, Westmoreland, Cumberland, and Northumberland, (except the mining portion of the latter,) not more than 253. With respect to the proportion of deaths reported from old age, equally remarkable contrasts are exhibited by the towns and rural districts.

"The proportion out of every 1000 deaths, which have been at the age of 70 and upwards, has been, in Manchester, only 53; in Liverpool, 60; in Leeds, 68; in Birmingham, 78; in the Metropolis, 99; while in the North Riding of Yorkshire and the agricultural parts of Durham, it is 202; in Devonshire, 208; and in the north of Lancashire, Westmoreland, Cumberland, and Northumberland, not less than 210. In the whole of England and Wales, the proportion, out of 1000 deaths occurring at 70 and upwards, was 140.

"Great also are the differences exhibited by the mining districts and the agricultural districts which surround them, with respect to mortality both in childhood and in advanced age.

"In the mining parts of Staffordshire and Shropshire, the mean deaths in 1000 at all ages under three years were 462; at 70 and upwards, only 90. In the rest of Staffordshire, Shropshire, and Cheshire, the proportion under three years was 332; and 70 and upwards, 141. In the mining parts of Northumberland and Durham, the proportion of deaths under three years of age was 349; of deaths at 70 and upwards, 150; while in the surrounding agricultural districts, comprised in Divisions 22 and 24, the proportions of deaths under three were only 282 and 252; and of deaths at 70 and upwards, 202 and 210."

It is well known that the same injuries and diseases are more fatal in cities than in the country, which, Mr. Farr observes, may account for the higher mortality from violent death, hernia and some other causes. Parturition is as frequent in the country as in town, where it is nevertheless so often followed by puerperal fever as to be 63 per cent. more fatal. The greater strength of the recuperative powers in the country, add greatly to the success of surgical operations, which in cities would be regarded as of doubtful expediency or altogether hopeless.

With regard to the mortality in the metropolis, a very considerable disparity exists in the proportions reported for the eastern, and the western and northern districts, the mean duration of life in the first being only from 25 to 30 years, whilst that of the latter was as high as from 40 to 50 years.

"The first writers who established satisfactorily the high mortality of cities took a gloomy and perhaps fanatical view of the question. Cities were declared vortices of vice, misery, disease, and death; they were proclaimed 'the graves of mankind.' The population of the country, it was said, was drawn to them

to be sacrificed; and those who entered left all hope behind, for no prospect of health in cities was beheld. Happily the further application of the methods which those eminent writers employed, and the facts which the registers furnish, enable us to analyze the causes of death in cities; and to show that while the mortality is increased as much as they stated, the apprehensions into which they were betrayed were ill-founded when applied to the future. There is reason to believe that the aggregation of mankind in towns is not inevitably disastrous. Health and life may be preserved in a dense population, provided the density be not carried beyond certain limits. Of this the nature of the causes to which the mortality is due, as well as the rapid improvement in the health of London within the last two centuries, is presumptive proof; and the favourable condition of several districts of the metropolis leaves little room for doubt on the subject."

In other towns the proportional mortality of different districts varies quite as much as in the metropolis, as will be seen from the following examples:—

	Population in 1838.	Deaths.	Annual percentage mortality.
Liverpool.			
Liverpool, ...	207,826	6627	3.189
West Derby, ...	75,003	1625	2.267
Manchester.			
Manchester, ...	174,482	6035	3.459
Blackley, &c.	30,533	671	2.198
Birmingham.			
Birmingham, ...	133,168	3359	2.581
Aston, ...	46,061	1099	2.386

The proportion of population in England living in cities, exceeds that of any other country in Europe, and increases more rapidly than the population of the rural districts. Within the last few years, great improvements have been made in all the circumstances upon which the health of the metropolis depends; such as the careful exclusion of all unnecessary animal and vegetable matter; the immediate removal of residual products; the opening of streets so as to favour the dilution of unhealthy exhalations; the erection of public slaughter-houses in the precincts; the supplying of pure water; the more effectual draining, and improvement in the sewers, &c. In relation to this subject, Mr. Farr observes, "Wide streets, squares, and parks, with spacious houses, would render ventilation easy, and secure the dilution of poisonous emanations; but the ground is valuable, and building is dear in cities; hence there has been a constant and an unopposed tendency in landlords to accumulate the greatest number of houses on the least possible space in poor districts, and the families of artisans are driven to crowd in small, low, close rooms. The evils from this source are one of the contingencies of poverty and ignorance; they may, however, be met by opening, in the densest neighbourhoods, a certain number of wide streets, through which the collateral streets would be ventilated by fresh atmospheric currents. As information spreads among tenants, landlords will naturally render the districts in which their property lies healthy. Men will pay higher rents rather than expose themselves and their families to the risk of sickness and death. The landlords of the metropolis, at whose expense the improvements must be made, are deeply interested in its sanatory state; for every amelioration conducive to the health of the inhabitants raises the value of houses, while the deterioration of the atmosphere must inevitably drive the wealthy out of town, and lead to the erection of residences in the country, which the facilities of travelling will every day render more accessible."

Mortality of the different seasons.—The influence of the seasons in the production of fatal diseases at the present day, and so far as the metropolis is concerned, is strikingly exhibited by the deaths registered in the four quarters of

the year 1838, in which we find the amount for winter, 15,611; spring, 13,109; summer, 11,397; autumn, 12,581. Summer was, therefore, the healthiest season, and winter the most fatal, an observation which accords with all those made since the beginning of the last century. The early English writers, however, found the relative salubrity of the seasons in accordance with the rule laid down by the Greek and Roman authorities, as summed up by Celsus in the aphorism; saluberrimum ver est: proxime deinde ab hoc, hiems: periculosior aestas: autumnus longe periculosissimus. This order of salubrity, which, as already observed, formerly obtained in London, is still found to subsist in Rome, and other towns on the shores of the Mediterranean. In attempting to explain the operation of the seasons and other circumstances tending to the production of the results furnished, Mr. Farr makes the following remarks:—

"The reduction of temperature alone, when the atmosphere reaches the freezing point, is fatal to a certain number of persons; at the same time many artisans are thrown out of employment, the small earnings of the poorer classes are diminished, and, as fuel is dear, the air, to exclude the cold, is shut out of their dwellings, until it becomes highly insalubrious. Warm weather creates a demand for labour out of doors, and excites all the functions when it is not carried to excess. As the temperature advances, and autumn comes on, dead vegetable and animal matter undergoes rapid decomposition; the living are infected; and, where the miasmata are concentrated in cities, or in undrained lands, remittent fevers, dysenteries, plagues, and malignant maladies, are generated.

"It therefore follows, that the same atmospheric conditions, and the same changes of temperature, may produce directly opposite effects on the relative mortality of the seasons in populations placed in different circumstances. Winter may be the most fatal to the inhabitants of a city on a favourable site, furnished with sewers, or to an agricultural population occupying a dry soil; and summer to the inhabitants of marshy districts, or of cities in which the refuse of organic matter is exposed to putrefaction. In proportion as the severity of the weather or malaria preponderates, the winter or summer will be the unhealthiest season."

Diminution of mortality produced by modern improvements.—A comparison drawn by Mr. Farr, between the rate of mortality observed in the metropolis in the four years, embracing 1606 to 1610, and 1838, exhibits in a most striking manner the improved state of health in London, and how much life is under human control. If the annual mortality of the metropolis had been the same in 1838, as it was in 1606-10, the deaths in the four seasons would have stood thus contrasted.

Year.	*Winter.*	*Spring.*	*Summer.*	*Autumn.*
1606-10	26,200	28,210	39,670	37,960
1838	15,611	13,109	11,397	12,581

The rate of mortality for the earliest period, was seven per cent. of the population, whilst that for 1838 was only 2.81 per cent.! It may be proper to remark that the first period does not embrace any of the plague years during five of which the average mortality constituted 25 per cent., or one-fourth of the population.

Mean temperature.—The following extract from Mr. Farr's letter shows the mean temperature of the year, and of the respective seasons in and near London, together with the dryness of the atmosphere.

"At Chiswick, in the vicinity of London, the mean temperature of winter (January 1st to March 31st) was 40°, spring 55°, summer 61°, autumn 45°, during the ten years 1826-35; in 1838 the mean temperature of winter was 35°, spring 52°, summer 60°, autumn 44°. The mean temperature of the year was 47°.6, of the ten years preceding, 50°.5. The mean temperature of January was 4° below the freezing point; while on an average of the ten years, 1826-35, it was 4° above the freezing point. In the shade the thermometer fell $4\frac{1}{2}$° below zero, or 14° lower than in 1826-35, when the minimum observed was 10°. The cold in London was less intense. The temperature of the four

seasons at the apartments of the Royal Society, Somerset House, was 36°, 53°, 61°, 45°,—of the year 48°.9. The thermometer did not fall lower than 11°.

"The dryness of the seasons, measured at Chiswick with Mr. Daniel's dew-point hygrometer was 2°.2; 5°.7; 4°.7; 1°.3, in 1826–35; and 1°.9; 6°.1; 4°.2; 1°.0, in 1838. The moisture was above the average; yet the quantity of rain that fell was only 21½ inches, while the average quantity, from 1826–35 was 24 inches.

"The electric state of the atmosphere was not observed; but it is indicated by the deaths from lightning, which in the kingdom amounted to 24; in winter 1, spring 10, summer 11, autumn 2."

In the metropolis the cold increased the mortality from the following named causes to the greatest extent.

	Winter.	Spring.	Summer.	Autumn.
Paralysis,	234	181	135	187
Apoplexy,	299	241	201	246
Asthma,	760	225	97	331
Hydrothorax,	90	73	43	79
Bronchitis, Pleurisy, Pneumonia,	1699	870	545	1154
Diseases of the Heart, &c.	273	159	177	211
Diabetes,	12	4	1	6
Dropsy,	501	427	375	465
Mortification,	84	50	35	56
Sudden Deaths,	216	165	105	146
Old Age,	1383	969	778	981
Consumption,	1944	2109	1905	1729

Epidemics.—Whilst the causes of death thus enumerated seem to be regulated by seasons and influenced by increase or diminution of temperature, there are others which operate with almost equal force throughout the year. "The diseases of the epidemic class," Mr. Farr observes, "follow laws of their own; they remain nearly stationary during months, years, and, as we learn from medical history, centuries; then suddenly rise, like a mist from the earth, and shed desolation on nations—to disappear as rapidly or insensibly as they came. The pestilences of ancient history, the plagues of England, cholera, influenza, smallpox, and typhus, are examples of this peculiar tribe of diseases. Epidemics have furnished much matter for discussion, and still offer large scope for inquiry. They have been attributed to terrestrial emanations, to the influence of the stars, to mysterious changes in the atmosphere, to heat, to animalcules, to deteriorated food, to contagion; and acting upon the latter doctrine, it has been assumed that the prohibition of direct intercourse with districts in which they prevailed would protect the inhabitants of a country from invasion.

"The registration has already yielded facts which are likely to throw light upon the propagation of epidemics."

Mr. Farr furnishes a highly interesting statement of the *smallpox epidemic* which prevailed from July, 1837, to December, 1839, a period comprising two winters, two springs, three summers, and three autumns, constituing ten seasons or quarters. He exhibits in separate tables the deaths from this source, not only in the metropolis, but in 324 divisions of the kingdom. An examination of the facts connected with the rise and progress of this epidemic, shows most evidently, that the disease was not regulated by temperature or change of season, since at the time that it was commencing in one district it was at its height, or was declining in another, placed apparently under the same general circumstances. More than thirty thousand persons (30,819) fell victims to the epidemic. The mortality increased up to the fourth season or quarter of the epidemic period. The deaths in the first quarter were 2513, in the second 3289, in the third 4242, which is about at the regular rate of 30 per cent. The rate of increase is retarded at the end of the third quarter, and only rises 6 per cent. in the next, where it remains stationary, like a projectile at the summit of its curve. The decline of the epidemic was less rapid than its rise. In the metropolis the mortality was greater than in all the other parts of England.

Mr. Farr's investigations show that the rates of increase vary with the density of population, the numbers susceptible of the attack, and other accidental circumstances. He thinks that the smallpox increases at an accelerated and then a retarded rate; that it declines first at a slightly accelerated, then at a rapidly accelerated, and lastly at a retarded rate, until the disease attains the minimum intensity, and remains stationary. It was sometimes arrested by vaccination, which protected a part of the population. Where inoculation was resorted to he had reason to believe it led to the extension of the epidemic by diffusing the infection artificially.

Among other epidemics which contributed to swell the mortality, Mr. Farr informs us that in the beginning of January, 1838, the cholera broke out in the Coventry House of Industry, the deaths from which were 55, (27 males and 28 females.) It did not spread through the town.

In noticing this second annual report of the British Registrar-general, we could not restrain ourselves from furnishing a few of the abundant interesting facts and details with which it abounds. Such publications are treasures of information, whose stores contribute to the attainment of exact knowledge for present and future use. They reflect the highest honour upon the enlightened government by which they were designed, and all concerned in the exceedingly laborious task of making the calculations and tabular statements. G. E.

Art. XVI.—*Grundzüge zur Dipsobiostatik, oder Politisch-Arithmetische, auf ärztliche Beobachtung gegründete Darstellung der Nachtheile, welche durch den Missbrauch der Geistigen Getränke in hinsicht auf Bevölkerung und Lebendauer sich Ergeben.* Von Dr. Fr. Wilh. Lippich. Erstes und zweites hundert der Beobachtungsfäller, 8vo., pp. 150. Liabach, 1834.

Sketches of Dipsobiostatics, or a Politico-Arithmetical Exposition of the Prejudicial Influence Resulting from the Abuse of Intoxicating Drinks, in respect to Population and the Duration of Life, based upon Medical Observations. By Dr. F. W. Lippich. First and second century of observations.

Among the various causes by which the vital energies of the human organism are impaired, the functions of its several organs impeded or disturbed, and the occurrence of positive disease, either invited or produced, no one, confessedly, is more efficient or common than the abuse of intoxicating drinks. But while this fact is very generally recognized, the actual nature and amount of the etiological influence which the habitual use of alcoholic fluids exerts, is, nevertheless but little, if at all understood. The statistics of intemperance, in reference especially to those particulars which have an immediate bearing upon pathology, have been almost entirely neglected, rendering thus the general statements made by medical writers, of its effects in the production, or in the modification of the character of diseased action, as well as of the influence it exerts upon the operation and results of the usual therapeutic agents, altogether loose and unsatisfactory—preventing thus the possibility of our deriving from them any deductions of an accurate or practical character.

To contribute his aid towards supplying the deficiency in our information upon this important subject, is the object of Dr. Lippich in the work before us, which presents a variety of highly interesting views in relation to it, based upon the results of the author's own observations. The value, however, of the general results deducible from the several tables in which the facts collected by Dr. Lippich are arranged, is, to a certain extent, impaired by the limited field of observation from which they are derived. To enable us to form correct general conclusions in regard to the actual nature and amount of the morbific influence exerted by intoxicating drinks, will require a larger series of similar statistics to those furnished by our author, derived from more extended observations, made in different communities, and among persons in all the various classes of society.

The observations of Dr. Lippich are derived from two hundred patients, re-

siding in Laibach and its environs, all of whom were addicted to the habitual use of intoxicating drinks in various degrees, as well short of actual inebriation as to the extent of continual drunkenness. One hundred of these patients came under the author's care, from the beginning of the year 1827, to the autumn of 1829, and the second hundred from the autumn of the latter year to the close of 1831. The results derived from the two centuries of observations, are given by the author separately. To furnish, however, to our readers, some idea of the general results of the whole, and to avoid the repetitions into which the author has been led by the necessity of comparing the two, we shall present, in the short notice we propose taking of the work, a general view of the two centuries collectively.

The first chapter of each part treats of the *sex* of the two hundred patients to which the observations of Dr. Lippich refer. Of these 145 were males, and 55 females, of whom 90 died; namely, 63 males and 27 females.

The second chapter presents the respective *ages* of the patients. Under 20 years of age there were 3 males; between 20 and 50, 91 males, 44 females, total 135; between 50 and 70, 45 males, 9 females, total 54; over 70 years, 6 males, 2 females, total 8. Of those who died, 1 male was under 20 years of age; 27 males and 19 females were between 20 and 50 years, total 46; 29 males and 6 females were between 50 and 70, total 35; 6 males and 2 females were over 70 years of age, total 8.

The third chapter presents a view of the *temperaments* of the 200 patients. 31 males and 16 females are set down as of the sanguino-choleric temperament, total 46; 47 males and 9 females, as of the phlegmatico-choleric, total 56; and 26 males and 11 females as of the melancholo-choleric, total 37; of the remaining 61, 9 males and 6 females were of the sanguino-phlegmatic, total 15; 8 males and 5 females were of the choleric, total 13; of the phlegmatico-melancholic, there were 10, all males; 5 males and 5 females were of the sanguine, total 10; 6 males and 4 females were of the sanguino-melancholic, total 10; of the melancholic, there were 2, both males; and 1 male of the phlegmatic.

The fourth chapter treats of the *degree*, *kind* and *duration* of the intemperate habits of each of the 200 patients. Of the first grade, habitual drinkers of intoxicating fluids, but not to the extent of actual inebriation, there were 24, viz., 13 males and 11 females, of whom 4 died, viz., 2 males and 2 females. Of the second grade, habitual drinkers of intoxicating fluids to the extent of occasionally producing inebriation, there were 66, viz., 46 males and 20 females, of whom 22 died, viz., 12 males and 10 females. Of the third grade, habitual drinkers of intoxicating fluids to the extent of frequent inebriation, there were 97, viz., 76 males and 21 females, of whom 47 died, viz., 38 males and 9 females. Of the fourth grade, confirmed and continued drunkards, there were 13, viz., 10 males and 3 females, of whom 10 died, viz., 7 males and 3 females. Of the 200 patients, 78 males and 32 females were addicted to the intemperate use of *wine*, total 110; of whom 31 males and 13 females died, total 44; 64 males and 23 females to the intemperate use of *ardent spirits*, total 87; of whom 27 males and 11 females died, total 38; 3 only, all males, to the intemperate use of *beer*, of whom 1 died; 60 of the patients, 44 males and 16 females had been in habits of intemperance for less than 5 years; 53 of these were under 50 years of age, and 7 over 50 years; 19 of these 60 patients died, viz., 15 males and 4 females; 103 of the patients, 68 males and 35 females, had been intemperate for a period of between 5 and 15 years; 77 were under 50 and 26 over 50 years of age; 45 of these 103 patients died, viz., 27 males and 18 females; 37 of the patients, 33 males and 4 females, had been intemperate for a period beyond 15 years; 8 were under, and 29 were over 50 years of age; 19 of these 37 patients died, viz., 15 males and 4 females. Of the 110 wine drinkers, 35 were over 50 years of age; 18 were of the *first grade* of intemperance, 34 of the *second grade*, 53 of the *third grade*, and 5 of the *fourth grade*. Of the 87 drinkers of ardent spirits, 27 were over 50 years of age; 5 were of the *first grade*, 31 of the *second grade*, 43 of the *third grade*, and 8 of the *fourth grade*. The three beer drinkers, were all

under 50 years of age; 1 was of the first, 1 of the second, and 1 of the third grade.

The fifth chapter treats of the social relations of the 200 patients, and of the number of their offspring; 80 were single. 61 males and 19 females; 105 were married, 75 males and 30 females; 15 were widowers or widows, 9 males and 6 females. During the period of their intemperance, by 65 of the above individuals, viz. 45 males and 20 females, 97 children were begotten, 39 males and 58 females. Of the 65 parents, 28 were of the first grade of intemperance, 17 males and 11 females; 23 of the second grade, 18 males and 5 females; 14 of the third grade, 10 males and 4 females, and none of the fourth grade. The children begotten by the 45 intemperate males are thus arranged.

By the 17 of the first grade,	9	males,	14	females,	total 23
By the 18 of the second grade,	11	"	19	"	" 30
By the 10 of the third grade,	4	"	8	"	" 12
45	24		41		65

The children conceived by the 20 intemperate females are thus arranged.

By the 11 of the first grade,	7	males,	8	females,	total 15
By the 5 of the second grade,	4	"	5	"	" 9
By the 4 of the third grade,	4	"	4	"	" 8
20	15		17		32

Chapter six gives the occupations of the patients. 37 males and 7 females were mechanics, total 44; 24 males and 6 females were day labourers, total 30; 19 males were soldiers, mostly discharged from service; 15 males and 19 females were without occupations, total 34; 13 males and 10 females were sellers of liquors, &c., total 23; 8 males were officers of revenue; 6 males were officers of the law; 4 males and 5 females were traders, total 9; 3 males were students; 3 males were scriveners; 3 males were sailors; 3 males were teachers; 2 males and 1 female were housekeepers, total 3; 2 males were sugar boilers; 2 males were musicians; 6 females were prostitutes; 1 male and 1 female were servants, total 2.

Chapters seven and eight treat of the residence of the patients and the period of the year in which they were attacked with disease. In the first of these particulars we can take no interest, unacquainted as we are with the medical topography of Laibach. In regard to the second, we find that 42 were taken sick in autumn, 60 in winter, 66 in spring, and 32 in summer.

Chapter nine. The subject of this chapter is the nature of the diseases under which the patients laboured, with their results. There were

		Were Cured.	Impr'd.	Died.	Rem'd.
32	labouring under affections of the brain, of whom	5	3	20	4
57	under diseases of the chest, of whom - -	9	14	28	6
32	" " abdomen, of whom - -	9	3	16	4
25	" fevers, of whom - - - - -	22	0	3	0
5	" delirium tremens, of whom - - -	5	0	0	0
6	" epilepsy, of whom - - - - -	1	1	2	2
3	" diseases of the eye, of whom - - -	1	1	0	1
3	" syphilis, of whom - - - - -	3	0	0	0
3	" erysipelas, of whom - - - -	2	1	0	0
1	" chlorosis, of whom - - - -	0	0	1	0
1	" smallpox, of whom - - - -	0	0	1	0
2	" abscesses, of whom - - - -	2	0	0	0
6	" cachexia, of whom - - - -	0	0	5	1
2	" drunkenness, of whom - - - -	0	0	0	2
1	" neuralgia, of whom - - - -	0	0	1	0
7	" dropsy, of whom - - - - -	0	0	7	0
186		59	23	84	20

		Were Cured.	Impr'd.	Died.	Rem'd.
186		59	23	84	20
7	under gout, of whom - - - - - -	2	3	0	2
2	" jaundice, of whom - - - - - -	1	1	0	0
1	" gravel, of whom - - - - - -	0	0	0	1
2	" uterine hemorrhage, of whom - -	1	1	0	0
2	" fluor albus, of whom - - - - - -	0	0	0	2
200		63	28	84	25

We wish our readers to understand that the foregoing is a bare skeleton of the leading facts embraced in the first nine chapters of each of the two parts into which the work before us is divided: the commentary appended by Dr. Lippich to the several tables, as well as the various interesting details given by him in relation to the general facts to which we have confined ourselves in the foregoing summary, are all important to a correct estimate of the legitimacy of his several deductions. Of these it was however impossible for us to present a digest in any way satisfactory to our readers.

In the ensuing eight chapters the diseases with which the two hundred patients were affected, are examined in reference to the sex and age, the temperament, the grade and kind of intemperance, the generative and physical condition, the occupation, the residence, &c. of those in whom they respectively occurred. From these chapters we cull the following facts. Previously, however, it is proper to state that of the one hundred cases treated during the first period, fifteen again came under treatment during the second period. The diseases, with their results, of these fifteen were as follows:

1 Laboured under congestion of the brain, and was cured.
1 " " epilepsy, and remained under treatment.
5 " " diseases of the thoracic viscera, of whom 2 were cured, 2 died and 1 remained.
4 " " diseases of the abdominal viscera, 2 were cured, 1 improved and 1 died.
1 " " gout, and was cured.
1 " " ascites, and died.
1 " " ophthalmia, and was cured.
1 " " bilious fever, and was cured.

From which it appears that 8 of the 15 were cured, 1 improved, 4 died, and 2 remained.

Independently of the diseases that are enumerated above, some of the individuals included in the author's observations, had been repeatedly attacked during the period of their intemperance, with a variety of morbid symptoms:—the diseases to which the numbers in the tables of Dr. Lippich refer, being mostly only the final link in a long chain of suffering.

Among the morbid affections not included by the author in his tables, are ranked those peculiar symptoms, which, in different degrees of intensity, occur in almost all the grades of intemperance;—as, for instance, sleeplessness, confusion of mind, tremulousness, morning sickness, heartburn, loss of appetite, &c. These, in a very striking manner, occurred in 50 instances. In their highest grade, the symptoms referred to, appear to be connected with a cachectic condition of the organism dependent on a morbid condition of the blood and lymph. Besides the foregoing, there occurred 19 attacks of hæmoptysis, 18 of epistaxis, 13 of hemorrhoids, 15 of hysteria, 9 of gastro-saburral fever, 9 of abscesses, petechia, &c., 7 of erysipelas, 7 of catarrho-rheumatic pains, with or without fever, 5 of eneurisis, 4 of constipation, 3 of chronic rheumatism, 3 of inflammation of larynx, 3 of spasms, 3 of vertigo, 3 of chronic diarrhœa; 3 of itch, 2 of inflammation of the spleen, 2 of rheumatic fever, 2 of uterine hemorrhage, and 1 of neuralgia, chronic cephalalgia, scurvy, inflammation of mediastinum, induration of mesenteric glands, saturnine cholic, cramp of the stomach, calculus, and poisoning with mercury, and many of inflammation of the ovaries.

Independent of the cases enumerated in the author's tables, of the individuals to whom his observations refer, during the period of their intemperance, 30 had been affected with catarrh, 23 with intermittent fever, 16 with pneumonia, 15 with decided congestion of the brain, 15 with bilious symptoms, with or without fever, 12 with gout, 8 with hepatic disease, 6 with syphilis, 5 with ascites, 4 with epilepsy, 4 with delirium tremens, 4 with inflammation of the throat, 4 with asthma, 4 with bilious fever, 4 with the cachexia of drunkards, 3 with bilio-nervous fever, 3 with saburral fever, 3 with diarrhœa, 2 with ophthalmia, 2 with aneurism, 2 with erysipelas, and one with consumption, angina pectoris, rheumatism, jaundice, chloasma, &c.

Before the period to which the author's observations refer, many were affected with the venereal, and during that period 5 (2 males and 3 females), became so. One case of abortion was observed.

Of the first hundred cases, most that terminated fatally in patients under 30 years of age were of consumption; in those from 30 to 40 of consumption and dropsy; in those from 40 to 50, of apoplexy, consumption, inflammations of the abdomen and their consequences. After the 50th year, the most of the deaths were from pneumonia, especially in females; after the 60th year, they were from apoplexy, especially in males.

Of the second hundred cases, most that terminated fatally in patients under 30 years of age were of consumption and organic diseases of the heart; from 30 to 40 years, from diseases of the bowels and heart; from 40 to 50 years, from diseases of the liver and consumption; from 50 to 60 years, from apoplexy and the cachexia of drunkards; over 60, from asthmatical affections, apoplexy and cachexia.

Of the first century of cases, the diseases in individuals of the first grade of intemperance were, for the most part, attributable to epidemic and endemic influences; they consisted chiefly in remittent bilious fever, and intermittent fever of a bilious character; among the chronic diseases were periodical gastritis, habitual congestion of the brain, obstruction of the liver, and gravel; of the 10 cases of individuals of this grade, one of bilious fever was fatal.

In the second century of cases, the diseases in individuals of the first grade were more generally the consequence of the intemperate lives of the patients; arising partly from the less pandemic character of the diseases generally prevalent during the period of the attacks, and partly in the habits of intemperance of the greater number of the individuals having been of longer duration. The principal affections were those of the heart, light inflammatory attacks of the abdominal viscera; the mortality in this grade was double in the second to what it was in the first hundred cases.

Of the first century of observations, the diseases in individuals of the second grade of intemperance were chiefly of an inflammatory congestive character; and seated principally in the thoracic organs. The mortality was as 1 to 2.5.

Of the second century of observations, the diseases which occurred in individuals of the second grade of intemperance, were principally inflammatory and spasmodic affections of the lungs, gout, erysipelas, and inflammatory affections of the abdominal organs, particularly the liver. The mortality was as 15 to 48.

Of the first hundred cases, the diseases occurring in patients of the third grade of intemperance were for the most part inflammations of the lungs, the accompanying fever being either of a bilious or bilio-nervous character—most of the cases of consumption and of apoplexy, occurred in individuals of this grade, of which the first were all, and of the last all but one, fatal. The other affections were disturbances of the mental powers, the delirium of drunkards, one half the cases of epilepsy, one half the cases of bilious fever, and bilio-nervous fever; all the cases of hepatitis with their results; inflammation and scirrhus of the bowels, &c. The mortality was as 1 to 2.

Of the second hundred cases, the diseases of persons in the third grade of intemperance, were the cachexia of drunkards, consumption, apoplexy, inflammation of the lungs, cramp of the breast, affections of the heart, concussion of

the brain, and one half of the mental affections. The mortality was the same as in the first hundred cases.

Of the first hundred observations, the diseases of those in the fourth grade of intemperance, were a single case of apoplexy and delirium of drunkards; scirrhus of the abdominal viscera and most of the dropsies. The mortality was as 1 to 1.2.

In the second hundred, the diseases of persons of this grade, were one case of cachexia of drunkards, and one of scirrhus of the stomach, dropsy and apoplexy. The mortality was as 3 to 4.

In the first one hundred observations, the wine-drinkers were chiefly affected with apoplexy—one half of the cases occurring in them; pneumonia (most of the cases); consumption; bilious fever and intermittent fever. The mortality was as 24 to 57.

In the second hundred, the principal diseases of the wine-drinkers were hepatitis, gastric remittent and intermittent fever, cramp of the breast, congestion of the brain, apoplexy, ophthalmia, pneumonia, affections of the heart, consumption, dropsy, gastritis and enteritis.

In the first hundred cases, among drinkers of ardent spirits occurred one half the cases of apoplexy, one half of the epilepsies. Their fevers inclined to the bilio-nervous character; inflammation of the abdominal viscera especially of the liver, and their consequences, also were very frequent in this class of persons. The mortality was as 22 to 41.

The diseases of the drinkers of ardent spirits among the one hundred individuals of the second series of observations, were chiefly pneumonias, cramp of the breast, organic affections of the heart and blood-vessels, gastritis, and cachexia of drunkards. The hepatic affections were of a chronic character; apoplexy and mental disturbance occurred in about equal proportions.

Of the two beer drinkers of the first hundred cases, the one was epileptic, and the other was affected with cramp of the breast; of the two beer drinkers of the second hundred cases, the one was affected with gout, the other with aneurism of the aorta with a consequent fatal attack of apoplexy.

Apoplexy in the first hundred cases occurred generally among aged persons, unmarried; delirium tremens among the married; epilepsy among single persons of dissolute lives; pneumonia among the married, and those who had been married; consumption seldom among the last; bilious fever among individuals of all conditions.

The individuals who laboured under chronic diseases of the chest and abdomen, especially women, exhibited the least procreative power.

In the second hundred cases apoplexy occurred mostly among the married, epilepsy among the single, pneumonia equally among married and single; the other diseases of the chest, with the exception of the organic affections of the heart and great vessels, occurred principally among the single. The single were most often affected with gastric and enteric maladies, the married with inflammatory affections of the liver, dropsy and cachexia of drunkards. The widowed were affected with asthmatical complaints and apoplexy. As in the first century of cases those labouring under chronic affections of the chest and abdomen exhibited the least procreative energy.

In the seventeenth chapter the author treats of the morbific influence of intemperance.

In one class of cases the diseases were produced by causes independent of the intemperate habits of the patients—their abuse of intoxicating drinks causing, however, a change in the character of the diseases, increasing the intensity, prolonging their duration and rendering them anomalous in some of their features.

The diseases of this class were mostly of an epidemic or endemic character, as remittent and bilious fever, catarrh, rheumatism, diarrhœa, erysipelas, cholera, inflammations of the liver and other organs; or arose from some cause of an accidental character, as an abscess of the lower extremity, the consequence of inflammation in a parturient female; or from contagion, as syphilis and smallpox—most of these diseases assuming in the intemperate a nervous or putrid

character, with rapid sinking of the strength, and were complicated frequently with sympathetic affections of the brain, stomach, liver and spleen.

To this class belonged 38 out of 215 cases; 23 males, 15 females; 7 were over 50 years of age: 5 were of the first grade of intemperance, 19 of the second, 13 of the third, and 1 of the fourth; 13 were drinkers of ardent spirits; 7 died.

In a second class of cases the intemperate habits of the patients had produced in them a strong predisposition to disease, the latter being readily induced by affections of the mind, changes of temperature, errors in diet, &c. The diseases of this class were nearly all the cases of epilepsy, most of the metastastic and some of the other cases of apoplexy, especially those with extravasation; inflammations of the throat, liver, spleen, lungs, intestines, eyes and other organs, many of the cases of nervous fever, hemorrhoides, cholera, dropsy, gravel, eneurisis, scurvy, chronic diarrhœa, &c.

To this class belong 58 out of 215 cases, 45 males 13 females; 30 were over 50 years; 12 were of the first grade of intemperance, 28 of the second, 16 of the third, and 2 of the 4th; 23 were drinkers of ardent spirits; 20 died.

In a third class of cases, the habits of intemperance of the patients acted both as predisposing and exciting causes of disease—producing epilepsy, epistaxis, delirium tremens, congestion of the brain, apoplexy, particularly the serous, hæmoptysis, bilio-nervous pneumonia, (the bastard pneumonia of Sydenham,) asthma, inflammation and organic changes of the heart and blood-vessels, aneurism, inflammation, especially chronic, and organic diseases of the œsophagus, stomach, liver, intestines; saburral fever; febris crapulosa, almost all the dropsies; consumption, profuse uterine hemorrhage, a peculiar kind of hysteria, &c. Spontaneous combustion occurs in general among patients of this class, sometimes among those of the second class.

To this class belong 53 out of 215 cases, 42 males, 11 females; 15 were over 50 years; 8 were of the first grade of intemperance; 12 of the second, 26 of the third, 7 of the fourth; 27 were drinkers of ardent spirits; 24 died.

In a fourth class of cases, the abuse of intoxicating drinks not only acted as predisposing and to a certain extent exciting causes of disease, but the continued use of these drinks during the course of the disease, augmented its violence, and increased the danger of a fatal termination. This was especially the case in inflammatory affections of the chest, consumption, gout, fluor albus, uterine hemorrhage, cachexia of drunkards, aneurism, angina pectoris, scirrhus of the liver and intestines, dropsy and mental disturbances.

To this class belong 53 out of 215 cases, 33 males, 20 females; 15 were over 50 years; 4 were of the first grade of intemperance, 12 of the second, 34 of the third, and 8 of the fourth; 27 were drinkers of ardent spirits; 29 died.

As the immediate cause of disease intemperance acted in 9 cases of febris crapulosa, vertigo, and a peculiar form of apoplexy in which after death, the smell of alcohol was perceptible in the cavity of the cranium; of these 9 cases, 3 were in persons over 50 years of age, 5 in males, 4 in females; 1 was of the first grade of intemperance, 1 of the second, 5 of the third, and 2 of the fourth; 3 were drinkers of ardent spirits; 4 died.

As the mediate cause of disease from external injuries, intemperance acted in 4 cases, 1 of traumatic pneumonia, 1 of traumatic phthisis, and 2 of concussion of the brain; of these 4 cases, 3 were in patients over 50 years; all were in males; 1 was of the second grade of intemperance, 3 of the third, 1 was a drinker of ardent spirits, and 1 died.

In the second division of the first part of the treatise before us, Dr. Lippich presents a view of the general movement of the population to which the two hundred individuals who form the subjects of his observations belonged. Taking the medium of the births and deaths for forty years, he finds the annual average of deaths to be 390, and of births 423. He subsequently, from various data, estimates the probable proportion which the intemperate bear to the temperate portion of the community, and determines from the result of his observations their proportionate annual mortality and births; and then to exhibit the influence which intemperance exerts upon population, he gives the following statement—

Yearly average of deaths	390, of births	423, excess	33
Deduct the number who die annually through intemperance,	87		
Add the loss in births caused by intemperance,		56	
	303	479, excess	176

Consequently, the author remarks, were it not for intemperance there would be an excess of births over the deaths, annually, of 176; and agreeably to one of Euler's tables, the population would double itself by natural increase in 45 years, whereas, with the present state of things this would scarce be accomplished in centuries.

The probable duration of the intemperate of different ages—of the different grades, and of different periods of intemperance is the subject of the concluding chapter of the first part of the treatise.

In the final chapter of the second part, the author gives some general deductions drawn from the yearly consumption of intoxicating drinks in Laibach.

We have thus presented to our readers some imperfect idea of the nature of the statistics collected by Dr. Lippich in regard to intemperance, its agency in the production of disease, and in augmenting its fatality, in diminishing the procreative energies of its victims, and in shortening their lives. This is a subject of no trifling interest to the pathologist as well as to the enlightened statesman, and although we cannot accede to the entire correctness of all the author's calculations, or to the validity of every deduction he has drawn from the very limited series of observations he has made, yet as presenting a plan upon which future and more extended observations may be based, the publication of the present treatise may not be without important results. D. F. C.

ART. XVII.—*Manuel d'Hydrosudopathie, ou Traitement des Maladies par l'eau froide, la sueur, l'exercice, et le regime, suivaint la methode employée par V. Priessnitz, a Græfenberg.* Par le Docteur BIGEL, Médecin, &c. &c. &c. &c. Suivi d'un Mémoire Physiologique sur la Chaleur Animale. Par M. PELLETAN, Professeur, &c., a Paris. pp. 396, 12mo. Paris. Baillière: 1840.

In again noticing Dr. Bigel's work, we had at first no design to say more about the opinions expressed in it than is already contained in the abstract, at pages 218-222, of our number for January last, as there compiled from the Medico-Chirurgical Review; but had intended to confine our comments to one or two of the circumstances of the publication. Upon looking over the volume, we still find that analysis, in our opinion, quite sufficient for justice to the general subject, both as regards the inventor and our readers. Along with the history of the water treatment, however, we find included a memoir by Professor Pelletan, on which we propose to add a few remarks at the end of the present notice.

The first circumstance which has attracted our attention is, that the inventor, who has reaped the honourable reward of his exertions in praise, thanks, and a handsome pecuniary independence, is not a "Doctor Priessnitz" at all, being, in fact, a farmer, the son of a farmer, educated in the habits of life which belong to his situation, and among other things, of limited school acquirements, and no other knowledge of the world than was to be acquired in his own retired neighbourhood. With regard to the degree of ease or hardship of his condition, accounts are given with great freedom, but varying among themselves; some speaking of him as a simple labouring man. All agree in representing him as utterly devoid of the slightest knowledge of medicine.

The Paris compiler, Dr. Bigel, described in the English journal as "one of the Medical Professors in the Imperial College, at Petersburgh," does not in-

form us very distinctly where his "professorship of midwifery" lies, or whether, indeed, it be public, or, as is not uncommon in Europe, private and voluntary. He informs us that he is an "assesseur" of the College of the Empire of Russia; by which we understand an assistant, liable to be called upon for professional opinions; the word having, in French, a legal sense, equivalent to what we call an "associate judge." What we are told, however, very explicitly, is, that he is the author of no less than four works on Homœopathia. This is stated in a conspicuous flyleaf, facing the titlepage.

This liberality in bestowing medical titles on the inventor, Priessnitz, the partial ambiguity about his editor, and, in fine, the employment of the latter in disseminating Homœopathia, constitute a real source of error into which we reviewers have no right to lead our readers blindfold. Some persons may consider these as small matters, excusable in haste or oversight; but we cannot regard them thus. Such entering-wedges to indifference in respect to accuracy, may be slight in appearance; but it is a principle of that mechanical power that they serve to introduce larger; nor can we ever consent that the boundary of the empire of truth shall ever be violated. It is at the frontiers that such invasions should be met; and a bad example becomes no better by being a little one. In announcing new facts, real or imaginary, in the science or practice of medicine, no precaution against error is more necessary than extreme care and precision in describing the degree and source of authority on which they are alleged. It never can be right to describe a strong-minded labouring man as a doctor of medicine, or to omit the circumstance that a large part of the history of his cures reaches us through the agency of a believer in the sanative efficacy of the quintillionth parts, and other high arithmetic of the Homœopathians.

We feel much more willingness, indeed, to expect the relief of chronic diseases and excessive medication, from the action of the kidneys, liver, mucous follicles, cutaneous pores, and other emunctories, aided by good food, exercise, relief from business and anxiety, and the pure air and water of the Sudetic mountains, than from the imagined presence of drugs in portions so small as to form no perceptible addition to the thinnest coating of a red globule, and no obstruction to an exosmotic porosity. A rapid improvement from the causes we have enumerated, is a thing frequently witnessed among our own mountains, without artificial perspiration; and we have ourselves seen and recognized the production of furuncles in the progress of such recoveries.

We have also a remark to offer in regard to the pompous invention and assumption of new words. Following the practice so familiar in their learned country, and to which men acting under a Latin diploma can hardly with a good grace object, Drs. Engel and Behrend have employed two words constructed from the Greek. The one calls the cold-water treatment of Priessnitz and his predecessors, *hydrotherapia*, and the other, the *hydriatric* method. On these we bestow no censure. They express the fact; and they are well suited to the studies of Germans, and ought to be so to those of Americans. But M. Bigel has coined an expression more majestic, not only in its intonation, but in its pretensions. *Hydrosudopathy* is not only an inadmissible engrafting of Latin and Greek, but implies the claim of being, what?—a *system* of medicine! The syllables "pathy," in this employment of them, mean not a practice, but a doctrine; while we in vain search for anything worthy of the latter appellation throughout the volume, unless we find it in the suggestion, that all the diseases cured at Græfenberg were produced by morbid poisons, subsequently eliminated by means of the water. We might as well make a new word for the use of any other popularized remedy. Suppose we write Lobeliopathy or Alcoholosalipathy! A laical friend, a better Hellenist, it seems, than the author of Dr. Bigel's word, assured us, the other day, that he really thought the expression was Hydropseudopathy.

The mention of the above attempt at connecting M. Priessnitz's successes with something like a philosophical opinion, naturally leads to the paper of Professor Pelletan. The observation so generally applicable, that most of the phenomena of life bear, and indeed require, a double explanation, on one side,

in regard to humoralism, and on the other to the doctrine of excitement, is exemplified in the present case. M. P.'s first memoir on the same subject as the present one, was published in 1826, in the Revue Médicale. Not attracting, however, so much of the public attention as the author thought it worthy of doing, he has made the arrangement with M. Bigel to append it to the present volume. We shall endeavour to sketch its outlines; when it will be found to present the explanation, according to solidism, of the cures of M. Priessnitz.

According to the views of Professor Pelletan, the stimulation which heat imparts to the activity of the functions, is not produced by the quantity of free caloric present, but by the rapidity and force of a current. After reminding us of the wonderful phenomena recently found to accompany and surround the route of an electric or magnetic stream, and the complication of these last with heat, he naturally concludes that we have a right to claim all the probability of analogy in favour of the converse existence of currents of electricity and magnetism along with and around those of caloric. After thus establishing, a priori, the possibility and probability of such processes, he goes on to exhibit the connection which can be proved to exist between currents of heat taking place in animal and vegetable life, and the most active vital labours of organized nature. In warm-blooded animals, these accompany the columns of fluid in the arteries. In exogenous vegetables, in which alone these phenomena can be rendered perceptible, a constant flow of free caloric takes place from the ascending sap in the alburnum to the coating of descending vessels, which lies immediately contiguous in the innermost bark. The first conveys a steady stream of heat, derived from the common reservoir of the earth, intended to be diffused and expended at the surface of the plant; while the latter returns fluids already cooled by exposure to the atmosphere in the leaves. It is in the space intervening between these two masses of vessels, that the most energetic actions of vegetable life, with the exception of those which take place in the organs of fructification, are carried on. In the former are produced the two new strata of the wood and bark; possessing, too, a renovated vitality. In the flowers and fruit, to which M. P. does not extend his inquiry, we believe the existence of currents could be shown; but it is inexpedient, at present, to venture so far into vegetable physiology. As much, too, could be said of the cold-blooded animals. Indeed, it is difficult to imagine the continued generation of heat in a vascular organization, without the necessary accompaniment of currents.

Among the warm-blooded tribes, with whom the most important applications of this principle or question occur, the connection of the vital aetivity of organs with the presence and rapid circulation of red blood, is one of the most familiar principles of physiology, human or comparative, and of pathology. It is certainly unnecessary to expatiate on this point. The theoretical view of Professor Pelletan is undeniably borne out by the universal coincidence of a current of caloric with any one of arterial blood. In the application of ice and other cold substances to the skin, overlying our organs, in medical treatment, M. Pelletan is of opinion, that when the effect is to create a great depression of temperature in the skin, while the sources of caloric in the organ beneath continue unimpaired, the effect is corroborant and stimulating. When the coldness penetrates profoundly the substance of the organ itself, the effect, as is well known, is depressing. This M. P. explains by alleging, (p. 387,) that, in general, the quantities of caloric transmitted by a body, are in proportion to its temperature. We think that M. Pelletan here concedes too much ground; and might claim still more clearness and simplicity for his own theory. The cold which deeply affects the substance of an organ, diminishes, and frequently altogether suspends the currents of caloric which have their origin in the newly aerated blood, both by diminishing the quantity of that fluid which enters the organs, and also by intercepting the heat before it actually enters the tissue which is cooled, and conveying it away directly from the sides of the vessels.

Another and very beautiful illustration of the views of M. Pelletan, is derived from the varying, and often apparently inexplicable effects produced by cold climates upon the vigour of the constitution. If the current of animal heat be

so powerful as not to be exhausted at its source, the effect of a low temperature, acting on the surface of the body, (and the same rule applies to icy potations,) is to increase the vigour of the actions of life. If the original source be exhausted or enfeebled, the effect is to destroy or to enfeeble the constitution. Hence the explanation, why in wintry regions of the earth, the most general effect on the human race is to destroy the feeble and invigorate the strong.

M. Pelletan's views, in this point, are confirmed by the observations of Dr. John Davy, on the effect of a climate nearly equatorial in increasing the heat of central parts of the human body, several degrees above the average standard. This is necessary in those regions, even at the lessened rate of human vigour generally found there, to keep up the currents of caloric from the heart and lungs to the evaporating surface. At the other extremity of the scale, if we apprehend his ideas correctly, we should look to find the Hyperborean race of men, the Laplanders, Esquimaux, and Samoiedes, possessing a lower degree of heat in the centres of circulation than the inhabitants of the temperate zones; an inquiry requiring future labour for its answer.

It is obvious that these considerations will explain the effects of cold as a hygienic agent, in strengthening the human body; as well as furnish a neat explanation of the phenomena of what is called *reaction* against cold. We know that a similar train of reasonings has passed through some minds; but the memoir of Professor Pelletan is the first instance in which we recollect to have seen it published. B. H. C.

Art. XVIII.—*Die Lehre von der Zurechnungsfahigkeit bei zweifelhaften Gemuthszustanden. Fur Aartze und Juristen praktisch dargestellt.* Von Dr. Adolph Schnitzer. Berlin: 1840.

The Doctrine of Responsibility in cases of doubtful State of Mind.

It is not extraordinary that in a country of learned men, the subject of Dr. Schnitzer's work should excite discussion. As late as 1838, Professor Mittermaier, an eminent German jurist, published a treatise with a similar title. "*De principio imputationes alienationum mentis recté constituendo.*"

So much has been accumulated, both of facts and reasoning, on this matter, in Europe and our own country, that we purpose, at as early a period as possible, to present a full view of it to the readers of this journal. Dr. Schnitzer has pursued his investigations systematically, and notices, amongst other points, the following:

The imputation of responsibility to those who are pregnant—mania sine delirio, amentia occulta, mania transitoria—on the imputation of illegal acts committed during a lucid interval—monomania—the responsibility for acts committed during sleep, dreaming and somnambulism; the same as to acts committed during a state of intoxication, and the condition of mind induced by habitual drunkenness, and delirium tremens; and the same as to acts committed by the deaf and dumb, and by epileptics. T. R. B.

Art. XIX.—*A Practical Treatise on the Human Teeth: showing the causes of their Destruction, and the means of their Preservation.* By Wm. Robertson. With plates. First American from the second London edition. Philadelphia: Lea & Blanchard, 1841. 8vo. pp. 229. Pl. VI.

Nearly all the writers on the diseases of the Teeth, have maintained the opinion that these organs are possessed of vital properties, and that caries of them is the result of an inflammatory action. Mr. Robertson, on the contrary, comes forward in support of the doctrine, that the teeth are not vital organs, but that the enamel and bone of the teeth are, strictly speaking, inorganic sub-

stances; and that their destruction is effected by chemical and not by inflammatory action. He supports this view of the subject by many weighty facts. A single one only we shall notice, but that seems to us almost conclusive as to caries being the result of chemical action. He states that when artificial teeth are fixed to a gold frame or the fangs of natural teeth, "if any crevice or interval, however small, be allowed to exist between the frame and teeth, a recess will then be made for the reception of minute particles of food, and a *process of caries will commence in the extraneous teeth*, exactly like that which takes place in the teeth naturally contained in the jaw." Page 83.

Cruvelhier, one of the latest writers on the anatomical relations of the teeth, regards them as appendages of the epidermic tissue, analogous to the nails, hair, &c., and like these structures, not endowed with vitality, and we believe that the weight of evidence will be in favour of this view.

We have not space to enter into further details on this subject, but must refer those who are interested to the volume of Mr. Robertson. This is evidently the production of one who has had much experience in dental surgery, and we strongly recommend it to those who practice that art.

ART. XX.—*An Essay on the connection of Mental Philosophy with Medicine.* By NATHAN ALLEN, A.M., M.D., editor of the American Phrenological Journal and Miscellany. Philadelphia: 1841. 8vo. pp. 32.

THE objects proposed by the author of this essay, is to inquire, 1st. Why the cultivation of metaphysics is so generally neglected by medical men? 2d. To point out the intimate connection of mental philosophy with medicine; and, 3d. To offer some remarks upon the importance of a knowledge of this science to the physician. These are important topics, and Dr. Allen has discussed them in an able manner. His essay is sensible and well written, and will be read with pleasure and advantage.

ART. XXI.—*Boylston Prize Dissertation, for the years* 1838 *and* 1839, *on Scrofula, Rheumatism, and Erysipelatous Inflammation.* By EDWARD WARREN, M.D., Fellow of the Massachusetts Medical Society. Philadelphia: 1840. pp. 122.

THESE dissertations furnish a very excellent summary of the existing knowledge in relation to three highly important diseases, and will be considered a valuable contribution to our medical literature.

SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES

IN THE

MEDICAL SCIENCES.

ANATOMY AND PHYSIOLOGY.

1. *Fibres in the Walls of the Gall-Bladder.*—M. Barth exhibited to the Anatomical Society of Paris, a dilated gall-bladder, in the parietes of which were manifest fibres, interlaced, and greatly resembling muscular fibres.—*L'Expérience*, Nov. 19, 1840.

2. *On the varying Proportion of some of the Principles of the Blood in Disease.*—MM. Andral and Gavarret experimented on the blood of 200 patients, or 360 different blood-lettings; and the process followed in their analyses was the same as that used by MM. Prevost and Dumas. They ascertained that, in disease, taking 1000 parts of blood, the fibrine may vary in proportion from 1 to 10 in that quantity; the globules from 21 to 185; the solid matters of the serum from 57 to 104; and the water from 725 to 9151; but it was very rare to find these different ingredients increased or diminished simultaneously. Sometimes only one ingredient was changed in proportion, whether it was increased or diminished; sometimes two were altered, but generally in an inverse ratio, as, for instance, if the fibrine were increased, the globules were diminished, and *vice versa*. From this remarkable circumstance MM. Andral and Gavarret divide into four classes the diseases which produce an alteration in the composition of the blood.

The first class comprehends those diseases in which the fibrine is constantly augmented; such are the phlegmasiæ.

The second class comprehends those diseases in which the fibrine is never increased in proportion, but often diminished; such are the pyrexiæ.

The third class includes those diseases in which there is constant diminution of the blood globules, as in chlorosis, &c.

In the fourth class are included those diseases or morbid states in which the albuminous matter of the blood is diminished, as in Bright's disease of the kidney, &c.

But this simplicity of arrangement cannot always be observed; for it often happens that many morbid states, each of which produces its peculiar alteration in the blood, are met with in the same individual. In this case they were able to trace distinctly in the blood the indications of this complication.

Besides disease, losses of blood and low diet were found to have a powerfully modifying effect on the relative proportion of the ingredients of the circulating fluid, and somewhat masked, as it were, the peculiar alteration of the blood caused by disease. They chiefly acted, however, on the blood-globules which they diminished; but it was found that, from one blood-letting to another, the globules were not diminished in the same proportion in all patients. In this respect there were very great differences in different individuals; so much so, indeed, that whilst one would between each bleeding lose only from 2 to 3 parts in the 1000, another would lose from 30 to 40.

At the same time that the blood-globules diminished from blood-letting, the fibrine most generally maintained its original proportion, rarely diminished, but sometimes increased.

When the disease was of that nature that the increase of the fibrine was one of its necessary results, this increase took place in spite of blood-letting and diminution of the blood globules. In order that loss of blood should effect the diminution of the proportion of the fibrine, it was necessary that it should be carried to a very considerable extent. It was then found that all the solid ingredients of the blood diminished simultaneously.—*Edinburgh Med. and Surg. Journ.*, from *Journal de Pharmacie*, Sept. 1840.

—

3. *Existence of Fibrine in the Blood in the Shape of Globules.*—Since the time of Hewson, it has been the commonly received opinion, that fibrine existed in a state of solution in the serum of the blood. He arrived at this conclusion from observing that, when a buffy coat was forming on the surface of recently drawn blood, the clear serous-looking fluid collected from its surface with a spoon separated into serum and a fibrinous clot. Subsequent observers having remarked the same fact, arrived at the same conclusion; and it is not a little strange, that, whilst other portions of the blood have been frequently subjected to microscopical examination, this portion, (viz., the serous-looking fluid collected from the surface of recently drawn blood, and which forms the buffy coat,) has been passed over unnoticed. A few observers have, it is true, observed colourless globules in the mass of the blood, mixed with the coloured globules; but their true nature has never been hinted at.

Mr. Addison, on placing in the focus of a microscope, a drop of the serous fluid which collects on the surface of the clot, found it to consist of serous fluid, and "an immense multitude of clear colourless globules." Some of the same serous fluid, removed from the surface of the recent blood before coagulation had taken place, separated into serum and a clot of fibrine. This experiment was frequently repeated, and always with the same result.

It is astonishing that analogy did not lead physiologists or anatomists long ago to this very result; for, on examining any portion of fibrine with the microscope, each fibrilla is always found to present the appearance of a congeries or string of globules. This discovery will also explain many circumstances connected with the physiology of the blood, hitherto not properly accounted for. It will go far to explain the appearance of the buffy coat on blood drawn from a vein, as the different specific gravities of the fibrinous and red globules, in particular conditions of the blood, may account for the greater or less thickness of the fibrinous layer on the surface.—*Ibid.*, from *London Med. Gaz.*, Dec. 18, 1840.

—

4. *The Physical and Moral Qualities observed in Adult Age are evinced at Birth.* M. Blanchet, from a long series of experiments and observations extended over twenty-five years, has arrived at the conclusion, that the future size, character, &c. of an individual may be pretty accurately guessed at a few days after birth.

His first series of observations had reference to the size of the individual. He marked the heights of 100 new born children, born between the years 1805 and 1810, and divided them into three classes according to their height. 1. Those who were shortest, and whose height did not exceed 16 inches, 6 lines, twenty-five in number. 2. Those of middle stature, sixty in number, whose height did not average more than 18 inches, 6 lines. 3. Those who were tallest, fifteen in number, whose height reached 20 inches, 6 lines. After a period of twenty years the survivors of these one hundred individuals, seventy-five in number, were again measured, and with the exception of seven individuals, they were found to hold to each other the same relative stature. Thus, those of the first class had attained a height of only 4 feet 11 inches to 5 feet. Those of the second class, that of 5 feet 3 inches to 5 feet 4 inches. Those of the third, 5 feet six inches to 5 feet seven inches, French measure. Of the seven exceptions, one had passed from the first to the second class, one from the first to the

third, and one from the third to the first. The other four were out of the way, and their stature could not be ascertained.

His next series of experiments were on the development of the brain, as connected with the intellect of the individuals. But we refrain from giving any detail of these, as they take for granted certain phrenological doctrines which do not appear to be proved. He embodies his conclusions in the following words:

1. That the male infant, born at the full period, bears the impress of the character, inclination, and intellect which it will have at 25 years of age.

2. That the quantity and quality of the intellect (esprit) depends on the volume of the brain; but is influenced much by the greater or lesser development of its anterior or posterior parts.

3. That in 100 men, 13 are born stupid, 2 idiots, 7 with a good share of intellectual endowments, 2 men of genius, 1 disposed for deeds of cruelty, 2 with superior intellectual endowments, 22 with a greater share of spirit than ordinary, and 51 with good common sense. *Ed. Med. and Surg. Journ.*, from *Bull. de l'Acad. de Med.*, November 15, 1840.

PATHOLOGICAL ANATOMY.

5. *Acephalocysts in the Brain.* By Dr. Michea.—Acephalocysts are so rarely found in the brain, that we record a notice of two cases which we observed in the practice of M. Martin Solon. The symptoms in this first case, in a man fifty-three years of age, resembled those of sanguineous effusion into the right hemisphere of the brain, followed by hemiplegia. The dura mater was found very vascular, with slight serous effusion into the arachnoid cavity, and injection of the pia mater. Opaline vesicles were found in both hemispheres, but mostly in the anterior lobe of the left, of the size of large peas, containing a diaphanous liquid, the centre of which was occupied by a small, globular, opaque milky-white body, without head or tail visible by the microscope. The second case was an epileptic patient, aged twenty-three, in whom the acephalocysts were found in smaller numbers.—*B. and F. Med. Rev.*, from *Gaz. Méd. de Paris*, November 2, 1840.

---

6. *Rupture of the Fallopian Tube from accumulation of the Catamenial Fluid.* —"Dr. Munk was requested, early on Tuesday morning, October 24, 1837, to visit R. S., æt. 18, who, on his arrival, (about an hour subsequently,) was evidently *in articulo mortis*. Her pulse was barely perceptible, but extremely rapid; the skin was covered with a cold and clammy perspiration; there were low muttering delirium; tracheal rattle; the facies Hippocratica; and a continual involuntary discharge of the alvine contents. She died in a few hours.

"Upon making some inquiries into the history of the case, I was informed that she had never menstruated; that about eighteen months previously, when the evolution of the external organs of generation and of the mammæ rendered probable the speedy appearance of the catamenia, she suffered from headache, pains in the back and limbs, cold extremities, and a heavy dragging sensation in the pelvic region, with some bearing down pains. These symptoms, after a brief continuance, subsided, but returned in five or six weeks; again ceased, and then returned after a shorter interval. This state of things continued for three or four months, the symptoms upon each recurrence remaining longer, and becoming more urgent, whilst the intermission became shorter in duration, and less perfect; so that at last there was no intermission, but manifest exacerbations occurring every fourth or fifth week.

"In January, the lower part of the abdomen began to swell; a deep-seated tensive pain was felt in the pelvis; all her symptoms were aggravated, and there was in addition occasional vomiting. She still, however, kept about her usual employment, and took, by the direction of a neighbouring practitioner,

some medicines, which, from the description given, I presume consisted either wholly or in part of iron. Under this treatment she got rapidly worse. On Friday the 20th, when stooping, she felt, to use her own expression, something give way within her, and the swelling of the abdomen appeared to subside, as did likewise the dragging and tensive pain above-mentioned. Towards evening she complained of diffused pain of the abdomen, which, by Saturday, had so far increased that she was unable to bear the slightest pressure. There was great heat of skin, headache, knees flexed upon the abdomen, some difficulty of breathing, contracted state of the features, nausea and vomiting, with difficulty of, and intense pain over the abdomen, on emptying the bladder. This condition continued until Monday, when she passed gradually into the state in which I found her on the Tuesday morning.

"*Autopsy twenty-six hours after death.*—On laying open the abdomen, I was surprised to find a large quantity of a dark red and thickish fluid (somewhat similar in appearance to blood, which had been for some considerable time effused) lying in the cavity of the peritoneum, and amounting, I should imagine, to twelve or fourteen ounces. The peritoneum, which was everywhere in contact with it, was stained of a reddish colour. On wiping away the fluid with which it was covered, there was an evident increase of vascularity, and in some parts the membrane was covered with a thin layer of coagulable lymph. I searched for the source of this sanguiniform fluid, but for a considerable time without effect. The uterus at length attracted attention; it was considerably larger than the ordinary size of a man's fist, but, nevertheless, flaccid. Upon opening it, I found four or five ounces of a similar fluid to that in the abdomen, contained within its cavity. The fallopian tubes were enormously distended; so much so that I could with ease pass the little finger into them. Close to the fimbriated extremity of the left tube there was a fissure about two lines in length, with ragged edges, thus forming a free communication from the cavity of the uterus to that of the peritoneum: through this the fluid in question had evidently passed. The lining membrane of the uterus was of a slightly reddish colour, depending, as I imagine, on its contact with the contained fluid. On pursuing the examination, I found an obstruction to the passage of the finger or probe through the vagina. This was caused by the opposition of the walls of the canal, and their junction by firm cicatrization. This cicatrix was from half an inch to an inch in length, and contained a hard tough substance in many respects resembling cartilage. I could find nothing at all resembling the hymen." —*London Med. Gaz.* March, 1841.

—

7. *Remarkable Spina Bifida.*—Dr. Verrall relates the following example of this, in a healthy, ruddy looking boy, about 13 years of age. When viewed in front, no deformity is perceptible, but on looking at his back a tumour, as large as a man's head, is seen situated over the lumbar vertebræ. This tumour is some inconvenience to him, but he plays about like other boys of his age. The skin covering it is here and there red, and tense and tight over the entire swelling.

The history of the case is as follows:—It was small at birth, but began to increase in size; at two years of age it was punctured by an empiric, and a quantity of fluid removed from it. The boy became immediately paralyzed, and continued so for several months. He recovered, however, when the tumour again increased in size. It was once more opened by the same person, who on this occasion made an incision of some extent over its surface. Ulceration again took place, and the boy was again paralyzed. He again, after some time, recovered the use of his limbs. The marks of the puncture and incision were quite visible on the tumour. Pressure over the swelling does not affect the patient. —*Lancet*, February 13, 1841.

—

8. *On Sudden Death.*—Mr. Winslow read before the Westminster Medical Society, an interesting paper on this subject. After referring at some length to the physiological causes and phenomena of sudden death, he brought before the

society an analysis he had made of 200 cases in which life was suddenly extinguished, from which it appeared that 40 arose from diseases of the heart; 20 from affections of the brain; 25, brain conjoined with disease of the heart; 18, abdominal affections; 20, aneurismal tumours; 10, convulsions; 32, mental excitement, with and without bodily disease; whilst under the use of mercury, 2; from lightning, 2; during parturition, 6; idiopathic asphyxia, 4; drinking cold water, 5; pulmonary apoplexy, 5; hæmorrhage from the Fallopian tubes, 1; air in vessels of brain, 2; blows on the stomach, 4, &c., &c. The majority of these cases were women. In 1838, Mr. Farr states that, out of 3012 cases of sudden death that occurred, 1840 were males, and 1772 were femles. Women, it appears, have less chance of dying suddenly than men, in the proportion of 10 to 18. The majority of cases of sudden death arise from hæmorrhage. From January 11 to October 17, 1840, 524 instances of sudden death took place in the metropolis alone. Between the ages of 1 and 15, 142; between 15 and 60, 246; and from 60 upwards, 131. Mr. Winslow then considered in the following order the organic affections which commonly give rise to this awful calamity:—1, Diseases of the heart and large vessels; 2, Diseases of the lungs, and those causes that interfere with the functions of respiration; 3, Diseases of the brain and appendages; 4, Diseases of the stomach and abdominal viscera generally. The affections of the heart, that often predict a sudden suspension of life, are as follows:—Rupture of the heart; relo-condition of the heart, or asphyxia idiopathica; syncope angina pectoris; hydatids of the heart; metastasis of disease of the heart; the sudden bursting of aneurismal tumour. Mr. Winslow related many instances of fatal rupture of the heart. The first case is related by Harvey, and Morgagni, who himself died suddenly of this disease, narrates many similar cases. He considered that the symptoms which usually indicated liability to this affection are—violent pain beneath the sternum and in the arms, pain in the præcordia and epigastrium, cold extremities, &c. In the majority of cases the heart has undergone some previous disease, either ulceration or softening, or there is a disproportion in the thickness of its muscular parietes. When the heart has undergone a structural alteration, it requires but a slight cause to rupture it. Mr. Winslow referred, at considerable length, to sudden death from *asphyxia idiopathica*, a decisive point noticed by Mr. Chevalier, which consists of a sudden loss of power in the minute vessels to propel the blood they have received from the heart; in consequence of which this organ, after having contracted so as to empty itself, and the dilated organ, continues relaxed for the want of the return of its accustomed stimulus, and dies in that dilated state. This affection seizes the patient suddenly, and, if proper remedies be not administered, death ensues in a few moments. It is often mistaken for apoplexy. Mr. Winslow then alluded to sudden death from *protracted syncope*. A person drops down in a fainting fit; relief is not instantly afforded, the heart never recovers its action, and death ensues. A case of this kind was related, caused by wearing tight clothes. Mr. Winslow thought that death often resulted from *spasm of the heart*. Hippocrates, Herophilus, and Bichat, relate cases of this character. In this way the latter physiologist considered that great mental emotion caused death. Mr. Winslow entered into the consideration of sudden death resulting from the transmission of disease to the heart, to the bursting of aneurismal tumours, hydatids in the heart, vomica suddenly bursting in the substance of the lungs, effusion in the chest, pulmonary apoplexy, which disease was considered generally to be conjoined with disease of the heart. The affections of the brain that caused sudden death were next dwelt upon; viz., 1, Cerebral apoplexy; 2, Latent inflammation, causing suppuration; 3, Abscesses suddenly bursting; 4, Generation of air in the vessels of the brain. He considered that sufficient attention was not paid to the latent or insidious affections of the centre of the nervous system; that inflammation and the formation of pus often took place, and extinguished his life before we were aware of its existence. Many cases, illustrative of this position, were related. Morgagni conceived that sudden death often resulted from what he termed "a repletion of the blood-vessels of the brain by air," which had been developed there spon-

taneously, compressing, by its rarefaction, the organ of the nerves, and thus destroying life. Mr. Winslow related the particulars of several instances of sudden death, in which the vessels of the brain were found filled with air; but expressed a doubt as to whether it was in our power to trace a connection between the extinction of life and the generation of this fluid in the vessels of the brain. The affections of the stomach and intenstines were next considered. Many fatal cases of ulceration of the stomach and intestinal canal were referred to, caused by the presence of *lumbrici*, in which death was suddenly and unexpectedly induced. The other affections which Mr. Winslow brought under the notice of the society, as deserving of its consideration, were as follows:—Death from mental excitement; drinking cold water; rupture of the biliary ducts; hæmorrhage from the Fallopian tubes in utero-uterine conception; inhalation of noxious gases, whilst under the influence of mercury, caused by exposure to intense cold, or to the heat of the sun.—*Lancet*, November 21, 1840.

—

9. *Obliteration of the Inferior Vena Cava.*—Dr. Gely has recorded, in a recent number of the *Journal de la Section de Médecine de la Société Académique du Département de la Loire-Inférieure*, the following interesting case of obliteration of the inferior vena cava.

Gerard, a seaman, 48 years of age, strong constitution, sanguineous temperament, was admitted towards the close of the winter of 1838, into the hospital of Nantes, with symptoms of anasarca, ascites, febrile oppression, extreme varicose dilation of the veins of the lower extremities, and of the abdomen, which were also excoriated over several spots. He stated that the varicose state of the veins came on during the winter of 1823, when he had the misfortune to have his legs frozen. He however recovered so far as to be able again to go to sea, where he contracted one of those cutaneous affections so common amongst negroes. Ulcers and abscesses formed on various parts of his legs, and he was long confined to bed; the varicose state of the vessels increased; and, for the last five or six years, he had been unfit for work. After a residence of a few weeks in the hospital, he died, with all the symptoms of some serious affection of the circulatory organs.

On dissection the superficial veins of the lower extremities presented the appearance of thick cords, doubled on themselves a great number of times, in the same way, indeed, as the *vas deferens* is at its origin. This mass, as it approached the crural arch, increased in volume; but after passing this, in its progress over the abdomen, it diminished in bulk till it reached the false ribs. The varicose veins were perceptibly larger and more flexuous on the right than on the left side. The varicose vessels over the trunk of the body were the abdominal tegumentary vessels, which anastomosed on each side with a large external mammary branch, which terminated in the axilla. The femoral and iliac veins of the right side were filled with false membranes to such an extent as to diminish the calibre of the venous canal to a tenth of its natural diameter. The false membranes became more numerous as they approached the *vena cava*, which was reduced to the state of a cartilaginous cord, as far as the point where the emulgent veins unite with it, above which portion it was pervious, but reduced in diameter.

The right epigastric vein was somewhat narrowed in diameter, but that of the left side was enormously dilated, ascended towards the umbilicus, coursed along the suspensory ligament of the liver, and followed exactly the course of the umbilical vein. The two renal veins were very much dilated, and on the right side an abnormal branch opened into the *vena cava*, and was continuous with the *vena comes* of the crural nerve, which was much dilated, and seemed to receive the blood from the deep vessels of the thigh.

The heart was hypertrophied, with dilation of all its cavities; and osseous concretions were met with around the aortic and auriculo-ventricular orifices, as well as in the coats of the aorta.

This case is extremely curious, as showing the mode in which the venous circulation had been kept up in spite of the destruction of the canal of the *vena*

cava. Thus, on the right side, the blood from the lower extremity, collected by the superficial veins, passed along the tegumentary veins and external mammary into the axillary vein, and from that into the superior cava; whilst the blood of the deep portions of the same limb was emptied into the *vena comes* of the saphena nerve; and from it into the *vena cava* inferior, above the contracted portion, and lumbo-vertebral venous plexus. On the left side, again, the superficial blood returned to the centre of circulation in the same manner as that on the right side; whilst the venous blood from the deep portions of the limb was poured into the epigastric vein, and from it into the sinus of the *vena portæ* by the umbilical vein.

The opening of one of the epigastric veins into the umbilical vein, and the enormous dilation of the vein which accompanies the crural nerve, and communicated with the *vena cava* inferior, were the two most striking anomalies in this case.—*Gazette Méd. de Paris*, November 7, 1841.

MEDICAL PATHOLOGY AND THERAPEUTICS AND PRACTICAL MEDICINE.

10. *Results of Re-vaccination in the Deaf and Dumb Institution of Paris.*—The number re-vaccinated was 128—124 pupils, whose ages varied from ten to eighteen years, and four adults, servants of the institution. Of the entire number, 60 were males and 68 were females. The operation was performed from arm to arm; the vaccine lymph was abundant; and the number of punctures made in each arm varied from two to six.

In 25 of the individuals, there neither were any traces of previous vaccination on their arms, although they had no doubt been vaccinated in infancy, nor were there any marks of smallpox on their face or body. (The mere absence, however, of cicatrices cannot be taken as a proof that the parties had never been vaccinated, nor had passed through variola.) Of these 25 cases, the vaccination produced no vesicles in 18; imperfect or false vesicles in four; and genuine cow-pox vesicles in three only.

Of seven individuals, who had distinct marks of smallpox on their faces, limbs and bodies, the operation succeeded perfectly in two, and failed altogether in five of them.

In the remaining 94 cases, there was distinct cicatrices of a former vaccination, the number of these varying from one to four or six; in some, one or more cicatrices were observed on each arm, in others on one arm only.

Now of these 94 persons, ten exhibited distinct cow-pox vesicles (after the re-vaccination,) 16 imperfect or bastard vesicles, and, in the remaining 70, the operation failed in producing any effects.

If we take, therefore, the entire number of persons "all well re-vaccinated by me," says M. Meniere, the reporter, "we find that in 15 cases only out of the 128, regular cow-pox vesicles were formed over the punctures on the arms; in 20 the vesicles were imperfect or bastard; and in 93 none at all were developed. From these data it appears that the operation took effect in about *one-eighth* of the whole; in about the same proportion, *one-eighth*, in those who had never had smallpox, and who exhibited no traces of vaccine cicatrices on their arms, although they had been vaccinated at some former period of life; in *one-third* of those who had had smallpox in their youth; and in about *one-tenth* of those in whom the cicatrices of a former vaccination were still distinct."

In estimating these results, it may be proper to attend to certain circumstances connected with the cases.

Of the fifteen persons in whom the re-vaccination took complete effect, ten were under thirteen years of age, and the other five were a few years older. In the two young girls, in whom it succeeded after previous smallpox, (which had left numerous and most distinct traces on the face and elsewhere) five years had elapsed in one case, and seven in the other, since the date of the attack

Among the pupils who had been vaccinated in their infancy, and in whom the re-vaccination took complete effect, two were twelve years, and the third was fourteen years old.

From these data, we may infer that the preservative or counteracting power of smallpox does not exceed that of cow-pox; since, under very similar circumstances, those who had passed through the two diseases were submitted to the same contagious influence, and experienced nearly the same results.

But we are unwilling to draw any general conclusions from the preceding report; as we are well aware that experiments must be made on a much more extensive scale before we can safely do so.

In conclusion, we may state, that several infants were vaccinated for the first time from the vesicles on the arms of those in whom the second operation took effect, and that the virus thus obtained seemed to be perfectly genuine and active. —*Med. Chirurg. Rev.* from *Journal des Connaiss. Med. Chirurg.* Sept. 1840.

—

11. *General result of the Vaccinations and Re-vaccinations in France.*—There is in a recent number of the *Annales d'Hygiène et de Méd. Légale* a table, prepared by M. Villeneuve, the reporter of a commission appointed by the Royal Academy of Medicine, exhibiting the general results of the vaccinations and re-vaccinations performed, and of the number and issue of the cases of smallpox in those who had been vaccinated, compiled from reports sent from forty-one departments. The results of those reports only are given in which the vaccinators have recorded their unsuccessful as well as successful cases; and wherever the re-vaccinations were described as doubtful, they have been omitted.

We give only the totals.

Vaccinations.			Re-vaccinations after ascertained Vaccination.			Smallpox after ascertained Vaccination.	
Number.	Successful.	Unsuccessful.	Number.	Successful.	Unsuccessful.	Number.	Deaths.
30,410	29,853	560	2199	223	1976	365	8

It results from this table:—

1. That the proportion of cases in which vaccination failed, compared with that in which it took effect—estimated by some writers as one to eight, or one to ten—is not more than about one to fifty-four.

2. That of 2199 cases, in which re-vaccination was performed on persons of different ages and sexes who had been successfully vaccinated at some previous period of their lives, the operation took effect in 223 cases only—which would give the proportion of about one to thirteen or fourteen.

3. That of 365 cases of confirmed smallpox, occurring in persons, who had been at some previous period successfully vaccinated, there were only eight that proved fatal—giving a proportion of about one in forty-five or forty-six.

We know that sporadic smallpox usually carries off about an eighth or a tenth of those who are affected with it; and that, when the disease becomes epidemic, the mortality is often as high as one in four, and sometimes even higher.

M. Villeneuve, in submitting the above table as containing the results of the labours of the commission, admits that the data hitherto supplied are far from being sufficient to solve the question submitted by the government to the Royal Academy—whether it is necessary to have recourse to re-vaccination as a universal measure throughout France.

12. *Anatomico-Pathological Researches on Cirrhosis of the Liver.* By Alfred Becquerel, of Paris. The name cirrhosis was given by Laennec to a peculiar affection of the liver in which that organ appears as if filled with numerous yellow granules, which are sometimes present in such numbers that the surface of a section of the liver presents an uniform yellow colour. If this surface is carefully examined, M. Becquerel says, an innumerable quantity of minute granulations may be discovered, which may be compared to the lobules of hardened and reddish-coloured fat which are commonly found in the subcutaneous cellular tissue of the thigh and leg of anasarcous subjects. These little masses are sometimes intimately united to the texture of the liver, but they are frequently separated from it by a thin layer of cellular tissue which forms a slight envelope round the globules from which they are easily detached.

The exact nature, the causes, and the symptoms of this affection are very imperfectly understood; and it is for the purpose of elucidating these points that M. Becquerel has published the present memoir. Laennec considered that in this disease a new morbid product was deposited in the liver, which he termed "cirrhose," and which he believed might be also developed in other organs of the body; appearing first in a state of crudity and afterwards softening. Andral states that the granules, in his opinion, merely arise from hypertrophy of the white or secreting part of the liver, which in the more advanced stages is accompanied with corresponding atrophy of the red or vascular tissue, giving rise to that shrivelled state of the liver generally which was described by Laennec as frequently occurring in this disease. M. Cruveilhier considers that cirrhosis consists in atrophy of a great number of the lobules of the liver, and a corresponding degree of hypertrophy of those which remain which causes the irregular granulated surface. Dr. Carswell, who gives an admirable description and delineation of this disease in the article Atrophy, in his work on Pathological Anatomy, regards it as consisting in atrophy of the lobular structure of the liver, produced by the pressure of a contractile fibrous tissue formed in the capsule of Glisson; an opinion which, as we shall find, very nearly coincides with that adopted by the author of the present paper. M. Bouillaud regards cirrhosis as a disunion of the two natural elements of the liver, the yellow granulations being nothing more than the secreting lobules undergoing disorganization in consequence of obliteration of the vascular tissue and consequent obstruction of the hepatic circulation.

M. Becquerel, previously to stating his own opinions on the nature of the morbid alteration of the liver in cirrhosis, briefly reviews the different opinions concerning the intimate anatomical structure of this organ in its natural state; and he adheres to the notion that there are two distinct substances; one yellow, which is the true secreting tissue, and the other red, which consists of the ramifications of veins and arteries. He inclines to the opinion of Cruveilhier, that each lobule possesses a spongy tissue not injectible; and thus widely differs from Mr. Kiernan, who describes the liver as being throughout essentially vascular; the lobules consisting of minute radicles of the biliary ducts surrounded by a plexus of the terminating branches of the portal veins. The latter eminent pathologist explains the differences in appearance between the red and yellow parts of the liver by the different degrees of injection of the different portions of its tissue.

Admitting, then, the presence in the liver of secreting lobules, into the interior of which no vessels enter, not even the minute ramifications of the biliary ducts, which together with the branches of the vena porta and hepatic artery form a network round the lobules without penetrating them; the lobules themselves merely consisting of a mass of albuminous corpuscles, as described by MM. Dujardin and Verger; M. Becquerel next endeavours to ascertain which of the tissues—the secreting or the vascular—is the one altered in cirrhosis, and he arrives at the conclusion that it is the latter only. He says that this tissue becomes infiltrated with a yellowish plastic or fibro-albuminous matter, which possesses the properties which characterize fibrine and albumen; for it is coagulated by heat, and by a continued application of that agent is converted

into a horny substance. He considers that this effused matter is analogous in its composition to the false membranes which are developed in mucous, and more frequently serous tissues; and he says that it undergoes the same changes.

M. Becquerel has determined that in this disease of the liver no pus globules can ever be detected in the altered structure; a very small quantity of fatty matter is likewise present, which is always abundant where pus is met with. He deduces from these facts that cirrhosis does not arise from acute inflammation; the absence of fat will also distinguish this disease from the fatty disease of the liver,* in which this organ is likewise of a yellow colour.

This fibro-albuminous matter is supposed to be deposited by interstitial infiltration in the central part of the secreting lobules, and the yellow substance of the liver becomes thus hypertrophied and causes compression, and eventually atrophy of a great part of the red or inter-lobular substance. Many of the vessels and ducts are thus obliterated, and the tissue of the liver becomes difficult of injection. In the most advanced stages of this disease the effused matter loses great part of the water which entered into its composition, becomes firmer, and contracts in size. It thus undergoes the same change as false membranes, which are at first soft and thick like white of egg, but which afterwards becomes organized and firm, and lessen in volume. From the contraction of this matter the yellow substance of the liver which was at first hypertrophied becomes atrophied, the altered lobules are diminished in volume, and many of them often coalesce, forming the patches which were described by Laennec as occurring in certain forms of this disease, and which give an irregular appearance to the surface or to a section of the liver. When this retraction has taken place, a great portion of the red or interlobular tissue of the liver no longer exists, and we only see an irregular agglomeration of yellow tubercles of different sizes, and the whole organ becomes hardened and shrivelled.

The immediate causes of this disease are completely unknown. M. Becquerel conjectures that it may arise from active and long-continued congestion of the liver, consequent upon chronic disease of the lungs or heart, (with the affections of which organs cirrhosis is often complicated,) or arising from other causes.

Cirrhosis never affects the liver partially, it always attacks all parts of the substance simultaneously. The gall-bladder is almost always quite natural. M. Becquerel has not made any comparative analysis of the state of the bile in this disease, but he found it vary considerably in consistence and colour.

This affection of the liver is mostly complicated with organic disease of other parts, as Bright's disease of the kidney, and various lesions of the heart and lungs; it is rarely met with by itself: M. Becquerel only found seven out of forty-two cases which he could consider as uncomplicated. He classes these complicating diseases under two heads: *First*, Chronic diseases, developed before or at the same time as the cirrhosis. *Second*, Diseases more or less acute, and probably consequences of the cirrhosis. 1. To the first class belong the following:—Lesions of the *Heart*. These are more commonly met with in connection with cirrhosis than any other; for in forty-two subjects examined the heart was affected with chronic disease in twenty-one cases, or in half; and the disease in all these instances had advanced to such a degree that it must have preceded, if it did not give rise to, the disease of the liver. The disease of the heart in these cases is often complicated with other affections, as emphysema of the lungs and chronic bronchitis, tubercular disease, or Bright's kidney.

It is exceedingly difficult to determine whether the affection of the heart gives rise to that of the liver, and if so in what manner. M. Becquerel has no doubt that the former precedes the latter in almost all cases, and supposes that it may give rise to it by keeping up a state of continued congestion of the liver. Pulmonary emphysema and chronic bronchitis, which are sometimes found accompanying cirrhosis, without disease of the heart, may be supposed to act in its production in the same manner, by obstructing the venous circulation.

* See Brit. and For. Med. Rev., vol. viii, p. 554.

Cirrhosis is very rarely found in connection with tubercular disease of the lungs. The fatty degeneration of the liver, on the contrary, is a frequent complication of consumption.

The morbid alteration of the *kidney*, known by the name of Bright's disease, frequently accompanies cirrhosis, having been met with fifteen times in forty-two cases. Some differences were observed between these cases of considerable interest; thus in nine cases where cirrhosis and renal disease existed together and appeared to be of about the same standing, old organic lesions of the heart and lungs were also found, which our author considers to have been the exciting causes of the diseases of both the liver and kidneys, repeated congestion of both these organs having been occasioned by obstruction to the circulation. In another series of cases, which includes three out of fifteen, the cirrhosis seemed to be of a much older date than the affection of the kidneys, and probably gave rise to it by obstructing the circulation of the abdominal veins. In the remaining three cases the disease of the liver and kidneys seemed to be of about the same date and had been probably developed from a similar cause, the nature of which, however, was unknown.

2. In the second class may be arranged the following:—*Ascites*, which constantly accompanies cirrhosis in the more advanced stages; *Peritonitis*, producing purulent effusion and the formation of false membranes; *Pleuritis* and *hydrothorax; Pericarditis*—this has only been met with in a few cases; *Anasarca*—this generally occurs in complicated cases along with ascites and when the disease of the liver is in an advanced stage. Besides these, *œdema of the lungs*, *pneumonia*, and *pulmonary apoplexy* have been met with, as well as congestion of the mucous membrane of the alimentary canal; and *intestinal hemorrhage*, which must be considered as an effect of the disease of the liver arising from the obstruction of the circulation of the blood through the vena porta.

Cirrhosis is more frequently met with in men than in women; thus of eighteen cases of the simple or uncomplicated form of this disease, twelve occurred in males and six in females. Of the whole number of forty-five cases examined by M. Becquerel, twenty-eight were found in men and seventeen in women.

With regard to the influence exerted by age, the eighteen simple cases may be thus arranged:

Between	18	and	20	years	1
"	20	"	30	"	2
"	30	"	40	"	7
"	40	"	50	"	3
"	50	"	60	"	5

Thus persons between thirty and forty seem to be most liable to be attacked by cirrhosis. This disease is also met with in children; and M. Becquerel is disposed to think that it occurs more frequently in young subjects than has generally been supposed.

With regard to the symptoms produced by cirrhosis, none exist sufficiently characteristic to enable the physician to diagnosticate its presence during life. The most constant symptom of this disease in its more advanced stage is dropsy, which always commences in simple cases in the abdomen; its approach is generally unaccompanied by pain, but in a few cases the belly is the seat of pain, either with or without pressure, and the presence of peritonitis is thus indicated. Anasarca sometimes precedes the ascites, but Bright's disease of the kidney or disease of the heart are then always indicated. M. Becquerel says that the state of the urine is always peculiar in this disease; it is of a deep orange and often reddish-yellow colour, very dense, strongly acid, and deposits an unnaturally large precipitate of urate of ammonia, which is of a bright red or cinnabar colour. The causes of this state of the urine are unknown.

The course of this affection is uniform and continued, and it always proceeds more or less quickly to a fatal termination, being apparently uninfluenced by any plan of treatment. *Brit. and For. Med. Rev.*, October, 1840, from *Archives Gén.*, April and May, 1840.

13. *Tubercle in the Cerebellum.*—Diseases of the central organs of the nervous system are involved in so much obscurity, that the following case, communicated to the Liverpool Medical Institution, by Mr. Long, will be read with interest.

Whilst attending a lady in February, 1840, Mr. L. was requested to see a servant who was suffering from sick headache; she had nausea, and occasional slight vomiting; her bowels were constipated, and tongue slightly furred; a disagreeable bitter taste in the mouth; pain in the occipital region extending to the vertex, and a perfectly quiet pulse.

"I ordered an aperient, which evacuated the bowels freely, and then directed small doses of blue pill to be taken at bed-time, and a mild aperient each morning. In a few days the tongue became perfectly clean and moist; the disagreeable taste had disappeared; but the vomiting and headache persisted, having still the characters of that form of headache usually denominated sick headache.

"I ordered her to bed, with the intention of examining her more carefully. I found the abdomen quite soft, without the slightest degree of tenderness in the epigastric region, or elsewhere. I then inquired into the state of the uterine system: her age was forty; the catamenia were regular as to time, and healthy in quantity and quality. She informed me that for upwards of a dozen years she had, at intervals, suffered from attacks similar to that which she now experienced, and that at times the pain in her head was so severe as to confine her to bed; that these attacks frequently came on at the menstrual period, but, if they occurred prior to it, were always aggravated by it; that at first they were easily removed by a brisk aperient, but had progressively become more obstinate; and that the attack under which she was then labouring had existed a fortnight before I saw her.

"She described the headaches as commencing usually during the night, or towards morning, and when very severe being always attended with vomiting, which occurred most frequently after eating, but frequently without any assignable cause; in fact, it was the obstinacy of the vomiting which drew my attention more particularly to the case; for medicines and treatment directed by this particular symptom were of no use whatever.

"Taking into account the healthiness of the uterine functions, the quietness of the pulse, the natural state of the tongue, the freedom from pain or tenderness in the epigastric region, and the persistence of the vomiting and periodical headache, I felt little doubt but that these phenomena owed their origin to the cerebro-spinal system; in effect, on making pressure between the occiput and atlas she experienced an acute pain extending from this region to the vertex, and immediately vomited.

"I directed leeches to be applied below the occiput; they produced marked relief. I repeated them, and the headache and vomiting ceased; she slept soundly during the night, which she had not done for weeks before, and was able to go about the house as usual. At this period I did not remark any peculiarity in her gait, except that she moved about cautiously, as if afraid of shaking her head.

"In a few days the symptoms began to return. I directed a blister to be applied to the same region. This checked them at once; she improved, was able to go out, and stated that although she did not feel quite well, yet that she was in her usual state of health. In this state she continued, and at my urgent solicitation applied a second blister, but could not be prevailed upon (being relieved from her distressing symptoms) to persist in the treatment I had laid down for her.

"Towards the end of March she went into the country, and consulted a practitioner there, who was of opinion that all her ailments resulted from a "change of life," and that the leeches and blisters had been injurious. He recommended some medicines, which she took; the effect, however, not bearing out the opinion she had received, but her headache and vomiting recurring, she returned to Liverpool, and I was requested to see her in consultation with a physician of this town. I found her much worse. The headache and vomiting were as bad as at first, with occasional hiccup, and now and then slight difficulty of deglutition. In attempting to walk she staggered like a drunken person, and supported herself by holding a chair, or placing one hand against the wall. In sitting

down she was some time before she could steady herself. At times partial convulsive movements occurred. These were peculiar; the muscles at the back of the neck first became rigid, the head being drawn backwards, and then twisted to the right side, and then convulsive movements of the muscles of the face on the same side commenced. These convulsive movements were sometimes accompanied by a tremor of the whole body. The menstrual secretion was still regular and healthy; the tongue quite clean, but tremulous; the bowels easily moved by medicine; the pulse slow, but otherwise natural; the temperature of the body below the natural standard.

"The plan of treatment adopted included slight irritation of the nape of the neck by means of lunar caustic, and she continued under our care until the middle of May, the convulsive twitchings increasing in severity, the headache, unsteadiness in walking, and vomiting persisting. It is worthy of remark that the convulsive twitchings and accompanying phenomena had for the last week or two assumed an intermittent character, so that she had what she called a good day and a bad day; the good day was only so, however, when compared with her bad day. This always commenced with headache during the night, then vomiting, then convulsive twitchings of the neck and right side of the face, and then a tremor of the whole body. During her bad day she was confined to bed; during her good day she sat up or walked about in the unsteady manner I have described. She was once seen by one of the family, when attempting to walk in the garden, to roll completely over. Her sister also informed me, and was corroborated in her statement by her fellow-servants, that she had frequently a tendency to fall forwards, and would have done so had not she or they caught her.

"She went to reside with her sister in town from this period until the evening of the 28th May (about a week.) I heard nothing of her. On the evening in question I was sent for, and found her seated in a chair, dead. She appeared to be asleep, so that I had some difficulty in persuading her friends that she was actually dead. Her sister informed me that during the preceding week she had been rather worse than usual; that the convulsive twitchings had extended to both arms, both being equally affected; that, on the morning of the day on which she died, she felt better than usual, but expressed a strong conviction that she should not recover. In the evening her headache commenced, the convulsive twitchings succeeded, she complained of sickness, a basin was held before her, she opened her mouth as if to vomit, and expired. She had passed her usual catamenial period eight days.

"I examined the body eighteen hours after death, and was assisted by Mr. Ellison. There were no external signs of scrofula. Nothing unusual was found in the membranes of the brain, or in its substance. A considerable quantity of colourless fluid escaped from the lateral ventricles; the arachnoid investment of both choroid plexuses was considerably distended by fluid underneath, presenting a hydatid-like appearance. The pia mater investing the cerebellum was much more minutely injected than could be accounted for by the effects of mere gravitation, particularly as the pia mater investing the posterior lobes of the brain was not similarly injected. The external configuration of the cerebellum was natural. Its whole substance and surface were rather softer than usual. The inferior vermiform process was occupied by a tubercle the size of a common marble, of a somewhat irregular figure, extending about a quarter of an inch into the right lobe. The nervous tissue immediately surrounding it was softer than the rest of the cerebellum. The superior surface of the right restiform body, just where it plunges into the cerebellum, was much softer than the left. The medulla oblongata, the pons varolii, and the nerves, arising from them were perfectly healthy. We were not permitted to examine into the state of the spinal cord, or any other part of the body. The tubercle was hard, and when cut into presented granules of concrete pus, and appeared to me to be contained in a fine cyst.

"*Summary of the Symptoms.*—Senses unaffected; intellectual faculties entire, except that the memory seemed at times impaired; catamenia regular, and no

derangement of sexual functions; periodical headache extending from the occiput to the vertex, of twelve years standing.

"Pain on pressing the occipital region; vomiting without epigastric tenderness; clean but tremulous tongue; occasionally slight difficulty of deglutition; rigidity of the muscles of the neck, with convulsive twitchings drawing the head to the right side; twitchings of the muscles of the right side of the face, extending subsequently to both arms; want of command over the lower limbs, with tendency to fall forwards.

"Lesions found after death; tubercle in the inferior vermiform process of the cerebellum, extending into the right lobe; softening of the cerebellum, particularly around the tubercle; injection of the pia mater investing the cerebellum; softening of the right restiform body; fluid in the lateral ventricles of the brain.

"1. The points worthy of notice are the rarity of tubercles of the cerebellum. Thus Louis and W. Lombard found tubercles in this organ twice only in 450 tubercular adults.

"2. The length of time these productions may exist without giving rise to serious symptoms: a case is mentioned by Dr. Abercrombie in which a tubercle of the cerebellum evidently dated its commencement at least five years prior to death.

"3. The intermittent phenomena caused or induced by a permanent change of structure, or new production, depending probably upon the intermittence of the lesions which exist around it; and, consequently, the existence of a new production may give rise to no phenomena, so long as the surrounding tissues are unaffected by it, and remain in a state of integrity.

"4. The non-appearance of the menstrual discharge at its usual period—eight days prior to death; the aggravation and extension of the symptoms during this period; the existence of a considerable quantity of serum in the lateral ventricles: though a question may arise whether death was caused by the vessels relieving themselves by this effusion, or whether it was produced by syncope.

"5. The softening of the right restiform body, and the remark of Rolando, "That injury of one of the restiform bodies produced convulsions, with curving of the body of the animal to the injured side;" there being in this particular a coincidence.

"6. The want of accordance between the case I have related and the case related by Mr. Serres, which induced him to place the seat of sexual impulse in the middle portion of the cerebellum (on this point I was particularly anxious, and purposely delayed its consideration for this place.) Eighteen years ago she had a son, who is now alive; since that period she has had no intimate male acquaintance, although she has not shunned their society; and during the whole of my attendance I did not perceive the least symptom of any amorous propensity, and her sister assured me that since her mishap she is certain she had none.

"I may mention here that Mr. Montault has related a case of a tubercle an inch in size occupying the whole vertical thickness of the middle portion of the cerebellum. The individual was paraplegic, and addicted to women; but in this case there existed other disease of the brain, and the lumbar vertebræ were diseased; whereas M. Guerard mentions a case where a tubercle an inch and a half in size existed at the upper surface of the cerebellum, and in the middle line; the substance of the cerebellum around the tubercle to the extent of two lines was softened; the spinal cord was sound. This individual was weak, particularly in his lower limbs, and staggered in walking. It is added it would be impossible to say that there was any marked symptom referring to the genital organs. The case rather seems to favour the opinion of M. Magendie, who, it is stated in the Journal Hebdomadaire, ascertained, by direct experiment, that when an injury was inflicted upon the middle portion of the cerebellum the animal remained undecided in its movements; or considering the cerebellum as a whole, without reference to its middle portion, it seems to favour the opinion of M. Flourens and M. Bouillaud, that in it resides the faculty of combination of the movements; and coincides with the cases related by Lallemand, Gall,

and Guerard, the individual staggering in walking, and having a tendency to fall forwards.

"7. The accordance of the symptoms in the case I have related with the cases of disease of the cerebellum related by Andral, these being thirty-six cases of disease of various kinds, and of variable extent, and eleven cases of abscess.

"Thus we find the intellectual faculties affected in 5; the senses in 6; the motor powers in 30; the tongue, in the thirty-six cases, 2; headache in 35; vomiting in 17.

"With respect to derangements of the motor powers they are stated to have been various; but amongst them we find several in which paralysis affected especially the lower limbs; whilst it is noted, however, the involuntary contractions of a greater or less number of muscles is a more common phenomenon than paralysis: in a great number all the body was agitated by convulsive movements, at intervals, in other particular muscles, as those of the neck, drawing the head backwards, or to one side. He also mentions the facts stated above, that some individuals had a sort of uncertain gait, staggering like a drunken person, and having a tendency to fall forwards.

"I may here mention two cases, one by Andral. Convulsive movements occurred, and always commenced by a powerful agitation of the head, which was drawn backwards as in a variety of tetanus. Some days the convulsions were confined there; but at other times became more general, and almost all the muscles of the body were affected: they augmented in frequency and intensity, extended to the respiratory muscles, and the patient died in a sort of asphyxia. An encysted abscess, the size of a pullet's egg, existed in the left lobe of the cerebellum. The second by M. Recamier. Frequent convulsive movements existed, commencing always in the muscles of the neck. In these attacks all the body was agitated, and the head drawn backwards. An encysted abscess, the size of a pullet's egg, existed in the left lobe of the cerebellum.

"With respect to the headache, it is remarked by Andral that it was generally seated in the occipital region; was mostly intense, and in several cases assumed a periodical or intermittent character; and that when vomiting occurred it was in all sympathetic, and one of the predominant symptoms, not occurring as a simple complication, but being certainly connected with the disease of the cerebellum.

"Dr. Abercrombie remarks, that where periodical headaches and paroxysms of vomiting occur in indurations of the nervous centres, the prominent morbid appearances are found in the cerebellum, and that the uneasiness in the head is more permanent and fixed than we should expect to find in a dyspeptic case, and the uneasiness is increased by causes which would probably be beneficial in dyspeptic headache; such as activity and cheerful company.

"He also notices that in cases of paraplegia tumours and indurations often exist in the cerebellum or tuber annulare; but that the cases on this point are unsatisfactory, in consequence of attention not having been paid to the spinal cord."—*Lond. Med. Gaz.* December, 1840.

—

14. *A Peculiar Form of Infantile Convulsions.* Mr. J. W. West, of Tunbridge, describes in a recent number of the *Lancet*, a very rare and singular form of convulsion peculiar to young children. The only case Mr. W. has seen of it, occurred in his own child, a boy nearly a year old, who was, when born, a remarkably firm and healthy infant, and continued to thrive until he was four months old. "It was at this time," Mr. W. says, "that I first observed slight *bobbings* of the head forward, which I then regarded as a trick, but were, in fact, the first indications of disease; for these *bobbings* increased in frequency, and at length became so frequent and powerful as to cause a complete heaving of the head forward towards his knees, and then immediately relaxing into the upright position, something similar to the attacks of emprosthotonos; these bowings and relaxings would be repeated alternately at intervals of a few seconds, and repeated from ten to twenty or more times at each attack, which attack would not continue more than two or three minutes; he sometimes has

two, three, or more attacks in the day; they come on whether sitting or lying; just before they come on he is all alive and in motion, making a strange noise, and then all of a sudden down goes his head and upwards his knees; he then appears frightened and screams out; at one time he lost flesh, looked pale and exhausted, but latterly he has regained his good looks, and, independent of this affection, is a fine grown child, but he neither possesses the intellectual vivacity or the power of moving his limbs of a child of his age; he never cries at the time of the attacks, or smiles, or takes any notice, but looks placid and pitiful, yet his hearing and vision are good; he has no power of holding himself upright or using his limbs, and his head falls without support.

"Although I have had an extensive practice among women and children, and a large circle of medical friends, I have never heard or witnessed a similar complaint before. The view I took of it was that, most probably, it depended on some irritation of the nervous system from teething; and, as the child was strong and vigorous, I commenced an active treatment of leeches and cold applications to the head, repeated calomel purgatives, and the usual antiphlogistic treatment; the gums were lanced, and the child frequently put into warm baths. Notwithstanding a steady perseverance in this plan for three or four weeks, he got worse, the attacks being more numerous, to the amount of fifty or sixty in the course of a day. I then had recourse to sedatives, syrup of poppies, conium, and opium, without any relief; at seven months old he cut four teeth nearly altogether without any abatement of the symptoms, and, up to this period, he was supported solely at the breast; but now, at the eighth month I had him weaned, as he had lost flesh and appeared worse; I then only gave him alteratives, and occasionally castor oil. Finding no benefit from all that had been done, I took the child to London, and had a consultation with Sir Charles Clarke and Dr. Locock, both of whom recognized the complaint; the former, in all his extensive practice, had only seen four cases, and, from the peculiar bowing of the head, called it the "salaam convulsion;" the latter gentleman had only seen two cases; one was the child of a widow lady, it came on while she was in Italy, and, in her anxiety, she consulted the most eminent professional gentlemen of Naples, Rome, Florence, Genoa, and Paris, one of whom alone seemed to recognize the complaint. In another case, mercury, corrosive sublimate, opium, zinc, and the preparations of iron, were tried without the slightest advantage; and, about six months from the commencement of the symptoms, a new one was added; there began a loss of motion in the whole of the right side, and the child could scarcely use either arm, hand, or leg. Sir Astley Cooper saw the child in this state: he had never seen or heard of such a case, and gave it as his opinion, that "it either arose from disease of the brain, and the child will not recover, or it proceeds merely from teething, and, when the child cuts all its teeth, may probably get well:" some time after, this child was suddenly seized with acute fever; the head became hot, and there were two remaining teeth pressing on the gums; the child was treated accordingly; leeches to the head, purged, and lowered; the gums were freely lanced; in a few days the teeth came through, and the child recovered, and from that time the convulsive movements never returned. Sir C. Clarke knows the result of only two of his cases; one perfectly recovered; the other became paralytic and idiotic; lived several years in that state, and died at the age of 17 years. I have heard of two other cases, which lived, one to the age of 17, the other 19 years, idiotic, and then died. I wrote to Drs. Evanson and Maunsell, of Dublin; the former gentleman being in Italy, the latter very kindly replied, he had seen convulsive motions in one finger, arm or leg, but had never witnessed it to the extent of my poor child. As there has been no opportunity of a post-mortem examination, the pathology of this singular disease is totally unknown."—*Lancet*, February 13, 1841.

—

15. *Treatment of Variola by the ectrotic method.*—By J. F. Olliffe, M. D. In this paper read before the Parisian Medical Society, we have some statements worthy of particular notice.

Cotugno is said to have been the first to direct attention to the means of preventing the disfiguration of the face, and for that purpose he recommended that this part should be frequently bathed with tepid milk and water, under the idea that the continual moisture would be efficacious in opposing the complete development of the pustules. The work of Cotugno was published in 1771.

In 1825, M. M. Bretonneau and Serres in an article published in the *Archives Générales*, advocated the employment of cauterization in variola, and gave the name of "*méthode ectrotique*" to it. M. Velpeau united with them in this treatment, but though each of these eminent practitioners united in the *principle* of the treatment, they differed in their mode of operating.

M. Bretonneau pierced the summit of each pustule with a gold or silver needle, charged with a small portion of lunar caustic in powder: he cauterized on the second, or at latest on the *third* day of the eruption, with the double intention of procuring the abortion of the pustules, and preventing the formation of scars; M. Guersent, physician of the Hôpital des Enfans Malades, repeated M. Bretonneau's experiments.

To M. Serres belongs the credit of creating the *méthode ectrotique*, properly so called. The word ectrotique is derived from the Greek εκτρωσις or εκτρωτικος, which means "procuring abortion." M. Serres proceeded, in confluent smallpox, by what he called "cautérisation en masse." He passed over the eruption a pencil dipped in a solution of nitrate of silver, the proportion from fifteen to forty-five grains per ounce of distilled water; in the distinct or discrete variety, he was not accustomed to open the insulated pustules, whilst M. Bretonneau invariably did so, but he touched each externally with the caustic. M. Serres affirmed that this topical application, besides causing the abortion of the pustules, opposed the occurrence of phrenitis, otitis, and ophthalmia, which so often appear in the course of the disease which now occupies our attention.

M. Velpeau completely removed the apex of the pustule with the point of a lancet, and then introduced into its cavity the sharpened end of a pencil of nitrate of silver.

The inventors of this method have summed up their ideas in the following conclusions:—

If the cauterization be performed on the second day of the eruption, or, at *latest*, on the *third*, no pustules are formed; if on the fourth day, the result is uncertain; if it be delayed until the fifth or sixth day, the progress of the eruption is not modified, and cicatrices remain.

In 1839 M. Legrand read to the Academy of Medicine a memoir* on the employment of gold leaf in smallpox. This practitioner applies to the face of the patient a coating of a solution of gum arabic, over which he lays the metallic leaf, thus gilding the visage.

In 1835 M. Gariel, interne at the Salpetrière, published in the *Archives Générales* some very interesting experiments made by M. Briquet, on the treatment of variola by mercury. The memoir alluded to, contains reports of eight cases of variola, six semi-confluent and two confluent, all treated and cured by mercury. The first patient was a young man, aged 25 years. He entered the hospital with an abundant eruption. The plaster of *Vigo cum mercurio*† was applied to the left arm, and on the right was placed a common diachylon plaster. Under the mercurial plaster *no pustules appeared;* whilst on the right arm the progress of the eruption was unmodified. No mercurial topic was applied to the

* Archives Générales, Aug. 1839.

† The following is the formula for the plaster of Vigo according to the French pharmacopœia.

Mercure - - - - - -	95 parties.
Styrax liquide - - - - -	48
Emplâtre simple - - - - -	312
Cire, resine, terebinthine, āā - - -	16
Gum ammoniac, bdellium, encens et myrrh, āā	5
Safran - - - - - - -	3
Esprit de lavande - - - - -	3

face of this patient, as M. Serres dreaded the occurrence of cerebral symptoms; *deep cicatrices* remained after the recovery of the patient.

The second case occurred in February, 1835. I mention this date with precision, as the patient, named Bouret, ætat. 15, was the first who was treated by the general topical system. His face was covered with the plaster; a part of which he tore off during the night which followed its application. *The denuded surface was the seat of suppurating pustules, whilst on that portion of the visage which continued subjacent to the plaster their abortion was effected!*

The last case narrated by M. Gariel, is that of a man named Odiard. He had not been vaccinated. He was affected with violent confluent variola; the pimples were small, scarcely raised above the level of the epidermis, and surrounded with a brilliant red areola. The Vigo plaster was applied, and allowed to remain seven days; on its removal, it was found that no suppuration had been established, with the exception of four pustules, and these were situated near the mouth, and had not been in contact with the plaster. This patient was radically and rapidly cured, and no scars were manifested. I must not omit to state, that the comparative effects of other topical remedies were tested, but in no case did they in any way modify the eruption.

From the foregoing results, M. Gariel drew the following inferences:—

1. The plaster of Vigo cum mercurio and powdered litharge united with lard, produces a complete abortion of variolous pustules.

2. Diachylon, porphyrised charcoal, gum arabic in solution, and all other topics hitherto applied (with the exception of litharge), with the intention of causing this abortion, have completely failed.

3. The abortion takes place, not only when the pustules are yet in a state of papulæ, but even when they are in full suppuration.

4. The abortion takes place by a process totally different from that which is effected in *varioloid* affections. In the latter it is to be attributed to the prompt desiccation of the *vesicle*, whilst in variola the pimple does not open at all; no pus appears, no scales are formed; resorption is effected, and, consequently, no scars can possibly occur.

5. That this resorption occasions none of the accidents which they were theoretically supposed to do, previous to the researches of M. Serres, but that, on the contrary, the abortion of the pustules renders this disease less severe, since it diminishes the number of pustules, in which, in fact, consists the severity of the disease.

In 1837, M. Gariel defended an inaugural thesis on the subject before us, at the Parisian Faculty of Medicine; but little attention was paid to his remarks or to those of M. Serres. Even M. Rayer, in his last edition of the "Maladies de la Peau," alludes to mercurials in variola in a very cursory manner, and professes his ignorance of their mode of action. Things were in this state, when, in October, 1837, a violent smallpox epidemic broke out in Paris and elsewhere. M. Briquet, of the Hôpital Cochin, was thus afforded an opportunity of giving mercury a fair trial. The result of these trials was given in the *Archives Générales* for Sept. and Oct. 1838.

The following is the plan of treatment now under consideration, as given by M. Olliffe.

"Mercury, as a topic, ought to be employed in all the varieties of smallpox, whether simple, confluent, or modified. Its effect is either to prevent the development of the pustules, or so to modify them that they become mere abortions. The whole face should be covered with a mask of the Vigo plaster, merely leaving a space for the mouth, nostrils, and eyes. A little mercurial ointment is applied to the eyelids. By the application of these plasters, the exanthem either undergeos entire resolution, or is converted into *vesicles*, or tubercles. The resolution is either primitive or secondary. The former takes place when the eruption is still papular; so that the papulæ, which, without the application, would have passed into pustules, disappear completely under its influence. The plaster often, indeed generally, changes the nature of the eruption, by converting it into a vesicular or tubercular form. When it assumes the

vesicular form, it differs little in appearance from herpes;—the vesicles contain a lymph-like serosity, and are surrounded by a light red areola; and a most remarkable circumstance is, that the skin between the insulated vesicles is pale, and never swollen and red, as it is in smallpox. No *suppuration ever takes place.* A day or two after the removal of the plaster the vesicles dry up, without any desquammation; and as for cicatrices, M. Briquet has never seen any form after his treatment. He totally differs from M. Serres respecting the utility of the plaster when the eruption has become pustular. The plaster is allowed to remain for three days in simple smallpox, and for four in confluent. M. Briquet tried, as did M. Serres, the effect of pressure, of lead plasters, and a host of other topical remedies; but always without the effect of modifying, in any way, the eruption. Thirty observations, some of them relative to cases of the most grievous kind, attest the unparalleled success of M. Briquet's experiments.

"Friction, with mercurial ointment, may be substituted for the Vigo plaster; and they are, in fact, quite as efficacious; but they must, as in all other cases, be performed before the eruption assumes the pustular form."—*Lancet*, Feb. 6, 1841.*

16. *Smallpox—Vaccination—Re-vaccination.*—These subjects are of such great interest, and are exciting so much attention, that we transfer to our pages from the *Lancet*, the following notice of a paper by George Gregory, Esq., entitled "Observations on Vaccination and Smallpox, more especially to the theory of vaccine influence, and the relation subsisting between the cicatrix and the character of the consecutive variola;" read before the Royal Med. and Chirurg. Soc., and also extracts from a report of the debate to which the reading of the paper gave rise.

The observations of the author, in the present paper, are intended to point out, first, the alarming increase of smallpox in the metropolis, as shown by the books of the Smallpox Hospital; and, secondly, the insufficiency of the appearance of the cicatrix of the former vaccination, as a test of the degree of protection afforded by the process.

Upon the first point, he adduces the fact that the admissions in the first three quarters of 1840, only amounted to 142, being at the rate of 16 per mensem; while in the 25 days immediately preceding the reading of the paper, they amounted to 93, being at the rate of nearly 4 per diem—a greater number than was ever admitted in one month since the establishment of the hospital in 1746. Of 316 cases admitted in 1840, 194 had not been vaccinated, of whom 87 died, or 45 per cent.! 120 had been vaccinated, of whom only 8 died, being at the rate of 7 per cent.; the remaining two had the smallpox previously. Of the 316 patients, 47 were under 5 years of age, of whom 28 died; 45 between 5 and 15, of whom 9 died; 224 were adults, of whom 58 died. The total mortality was 95, or 30 per cent. on the gross admissions.

With reference to the second point, the author entered at some length into an explanation of the causes by which the many observed varieties in the appearance of the cicatrix may be explained, and presented the society with two series of well marked cases; in the first of which, severe smallpox occurred in cases presenting perfectly normal cicatrices; whilst, in the second, the opposite anomaly presented itself; the lightest and truly varicelloid eruptions co-existing with small and very imperfect cicatrices.

In the conclusion of his paper the author expresses a doubt of the conclusion seemingly derived from the late experiments of Mr. Ceeley, of Aylesbury, of the identity of the vaccine and variolous poisons.

Dr. Webster thought that the conclusion come to by the author, in the first paragraph of his valuable paper, respecting the unusual prevalence and mortality of smallpox, at the present moment, in the metropolis, was somewhat erroneous. And, as every observation from Dr. Gregory, on a disease with which he was so familiar and experienced, carried great weight with it, especially when considerable alarm existed in the public mind on the subject, Dr.

* The memoir of M. O., at least as published in the *Lancet*, contains a number of errors which are here corrected.—Editor.

W. begged to offer a few remarks, in opposition to the deductions the author had drawn from recent occurrences at the Smallpox Hospital. For, although a greater number of patients had been admitted, and more deaths had taken place at that institution, during last year, than at any similar previous period since its foundation, the result has been quite otherwise in the metropolis generally; and in support of this opinion, Dr. W. appealed, with the utmost confidence, to the Registrar-general's Report; a document most useful to the medical profession, and highly creditable to the government. In these tables 3817 fatal cases of smallpox, or 73½ weekly, were recorded to have taken place during 1838, in London, whilst in 1840 only 1233 deaths occurred, being scarcely one-third of the former number. Such an incontrovertible fact, notwithstanding the admissions and deaths at the Smallpox Hospital, must show that the fears now existing were groundless. Statistical conclusions, when drawn from a limited number of facts were often very fallacious; but if obtained from the occurrences in a population of upwards of a million and a half, like that of the metropolis, they were then of great value, and most correct; hence the opinions expressed by the author must be taken in a limited sense, and by no means as proving the general prevalence of smallpox. It was much to be regretted that this disease has so frequently prevailed after vaccination, as stated by the author; but Dr. W. trusted that in many of those cases the patients had been imperfectly vaccinated; and he hoped the fact of so many persons affected by the secondary smallpox, would stimulate those most interested to extend genuine vaccination more and more, since it was the surest preventive we yet possessed against the ravages of this most disgusting and fatal disease.

Dr. Gregory, in answer to the observations of Dr. Webster, might remark, that the present epidemic was now only in its commencement. This epidemic, like that in 1838, began in the autumn; and as it had been proved that epidemic diseases generally required six months to fully develop themselves, and six months more to recede, he calculated that the present one would reach its greatest height in May or June next. This epidemic had commenced in October, 1840, since which period the admissions into the Smallpox Hospital had been gradually and steadily increasing in number. The epidemic of 1838 commenced in October 1837, and did not reach its crisis until the following May; hence it would be seen that Dr. Webster's calculations were altogether fallacious, as they had extended to the whole of the years 1838 and 1840, whereas, to be correct, they should have been limited to the months in which the disease had been epidemic. Regarding the other statement of Dr. Webster on the possibility of statistics drawn from the Smallpox Hospital, being erroneous, when taken in reference to the disease in general, he might merely remark, that in both the old and new Bills of Mortality, the deaths from smallpox bore a remarkable correspondence in number with those occurring in the institution in question. He (Dr. G.) had not as yet made any accurate calculation of the comparative numbers affected by this epidemic and that of 1838; but he thought, from general recollection, that the latter was more severe than the former.

Dr. Webster, in addition to the remarks made by Dr. Gregory on the epidemic smallpox of 1838, would say, that the disease was most prevalent in the months of April, May, and June of that year, when the average weekly deaths were about 88, or 1141 in the quarter; whereas, during the same months of 1840, the average deaths were only 13½ per week, or 174 in the quarter. This contrast was, indeed, truly remarkable. Besides, although Dr. G. reported the admissions and deaths, at the Smallpox Hospital, to have been very great during last December, and up to the present date, nevertheless it appeared by the registrar-general's tables, that the epidemic was becoming less prevalent. In the month of December last, the disease was certainly more fatal than during any other month in the year; but it was only in the last week that the average number of 1838 was actually exceeded, when 102 deaths are reported. However, it ought to be remembered, when the accounts for the year were about being closed, that perhaps some deaths were included in this fifty-second report, which ought to have been entered in previous returns; and such a supposition appeared the more likely, since the deaths from all causes were so high as

1377, instead of approximating to the average number of previous years, or 1013. Again, in the reports of the 9th and 16th of January of the present year, the deaths from smallpox were respectively 86 and 55; thus proving most conclusively, that the epidemic was rapidly diminishing, notwithstanding its great prevalence at the Smallpox Hospital, which Dr. Webster believed was greatly owing to the excellent accommodation afforded to the patients; besides the well known zeal and experience of the physician, Dr. G., under whose charge they were placed, it was, therefore, not surprising, if so many cases were sent to that institution from all quarters.

Mr. Arnot requested information as to which was the most proper period to perform vaccination for its full preservative powers to be obtained. A case was related in the paper, of a child two years and a half old, suffering from confluent smallpox, who had been vaccinated at two months old; and he himself had seen one case of consecutive variola, in a child under seven years of age, who had been vaccinated at the second month.

Dr. Gregory replied, that it appeared to him that the question of the most proper age for vaccination might be drawn into a very small compass, provided the disease were taken properly—that there was a good vesicle and areola, with a due degree of constitutional effect, it mattered not whether vaccination were performed at the second, third, or fourth month, or the second, third, or fourth year. The true question for consideration was, at what period of infantile life vaccination could be performed, so as most certainly to ensure success, and to avoid inconvenience to the parties. This question had recently been forced upon public notice from the interesting circumstance of the Princess Royal being born during an epidemic prevalence of smallpox. In answer to this question it might be stated, that in the first week or ten days after birth, before the infant had attained any degree of plumpness, it was very difficult to vaccinate; not from any want of susceptibility in the patient, but from the difficulty of inserting the lymph properly. This difficulty was more or less present until about the fourth month, and therefore this was the period usually chosen; for not only was the arm then generally plump, but there were also then no contending influences, such as teething, present in the constitution.

Mr. Ceeley agreed, in the main, with Dr. Gregory; but he thought that the difficulty of vaccinating very young children, was mainly dependent upon the mode in which the operation was performed. He believed that an infant of two or three days old might be effectually vaccinated, if the lymph were inserted by merely scratching the skin on its surface; puncturing in these cases would not succeed.

Dr. Gregory remarked, in answer to a question, that there was extreme difficulty in determining at what age patients were vaccinated, who, having afterwards contracted smallpox, were admitted into the hospital. They generally stated that they were vaccinated in early life; but whether at the second, sixth, or twelfth month, they could not tell. Even parents could give no precise information on this point. Thus, in a family of ten children, all of whom had been vaccinated, and one of whom had since contracted smallpox, and died, the only information he could obtain in reference to the operation was, that it was duly performed, in all the cases, by a surgeon at Aylesbury, and that one pound one was paid for each child, "not eighteenpence, Mr. President," said Dr. Gregory, "but one pound one."—(*Hear, hear, and laughter.*) There was another point, however, upon which he would venture to offer more definite information. He had observed a number of cases of smallpox after vaccination, when the process had been gone through at the seventh, eighth, and tenth year, and even at a later period. It appeared to him, that of those who were vaccinated at the adult age, more took the disease than where the vaccination had been performed in early life. Hence he considered the latter period more favourable than the former for the operation; and he explained this by supposing, that in adult life there existed a greater mass of fluids to be improperly impregnated than in the infant state. He would wish to ask a question of the society, and this had reference to the new matter, the variolo-vaccine, as it had

been termed, and which had been extensively employed in practice since 1839—Had the members of the society had any experience of this new material? and if so, had they observed any difference between it and the old vaccine matter? and also, whether they thought it was likely to be more effective in its results than that which had been in use for the last forty years? He himself had recently paid much attention to this subject; and he had observed so marked a difference between the two kinds of matter, that he thought they possessed features which rendered each at once distinguishable. There was a difference in the areola, in the appearance of the vesicle, and in the reparative process. Thus the areola of the variolo-vaccine was of a purple hue; in the centre of the vesicle was a minute green point, described by Dr. Ceeley as the "emerald resting on the pearl;" whereas, in the old vaccine vesicle, Dr. Jenner had described the appearance to be that of the "pearl resting on the rose." The variolo-vaccine was liable to be followed frequently by sharp and deep inflammation of the cellular membrane, and the reparative process was attended by much constitutional disturbance.

Mr. Ceeley believed that there was no specific difference between the two kinds of lymph, although there might be a little variety in the effects of the variolo-vaccine consequent upon the structure into which it was inserted, and the temperament of the individual operated upon. It was curious to observe the various accounts he had received from practitioners of the effects of this lymph. Some said that its effects were milder than were those of the old vaccine matter; others described it as precisely the same, and some remarked that it was more active. These differences in the effects, he believed, were mere varieties, and did not depend upon any specific difference in the matter, but on the circumstances he had already mentioned—the state of the skin, the subject acted upon; and the time of year in which, and of the tissue into which it was inserted. There might be some difference in its activity, in consequence of its being a new lymph. The popular opinion in Aylesbury was, that the new lymph was followed by more secondary inflammation, and more constitutional irritation than was the old; but this peculiarity did not obtain in regard to its primary effects.

The subject of *re-vaccination* being mentioned, Dr. Gregory remarked, that he had not been able to obtain much information, except that it was becoming more prevalent among the lower order than it used to be. In the case alluded to, of a family of ten children, one of whom had died of smallpox after vaccination, eight of the other children had been re-vaccinated under his own eye. In one half of these the disease was attended by perfect vesicles and areola; in others these were mere irritable papulæ; and yet all the children presented perfect cicatrices. This difference in the effects did not appear to be at all traceable to age; some of those in whom the disease took well were old, some were young. He thought we were yet in much want of information to explain some of the phenomena connected with variola. He should, however, recommend re-vaccination in all cases, to give the patient a better chance against the infection of smallpox. With regard to the remarks of Mr. Ceeley, respecting the different accounts he had received of the effects of the variolo-vaccine, he (Dr. G.) might merely observe, that these differences did not obtain when the old matter was employed. He knew by experience what he had to expect from the old matter, and calculated accordingly. Not so, however, with the new, for he found that this would produce a mild vesicle on Thursday, the first; a very severe one on Thursday the eighth, and from this a mild one might subsequently be reproduced. It appeared to him, in this particular, to bear a close resemblance to variola; for a mild varioloid disease sometimes produced a confluent form of the complaint in another person, and *vice versa*, the confluent sometimes generated the mildest varioloid.

The same subjects were also discussed before the *Medical Society of London* and as the debate elicited some interesting facts, we add a report of it.

Mr. Dendy stated that he had found the character of the cicatrix, from the previous vaccination, afforded no evidence of the amount of protection, and, in

consequence, that would not determine the character of the consecutive variola. With respect to the old vaccine matter and the variolo-vaccine, some of which he had procured early from Mr. Estlin, he had found the latter to be so little to be depended upon, that he had given up its use entirely. He believed the reason why vaccination was more likely to be effective in early life, than at the adult period, did not depend upon the cause specified by Gregory; namely, that at the latter period there was a larger mass of fluids to impregnate, but rather upon the fact, that the child's constitution was purer, and the vaccine process was less likely to be interfered with by contending influences in the system. He should recommend the performance of re-vaccination every six or seven years.

With respect to the preventive power of vaccination, Mr. Dendy alluded to three cases, which had come under his notice, of secondary smallpox occurring in children who were deeply pitted by the first attack of the disease; while other children, in the same families, who had been protected by vaccination, merely suffered from a varicelloid eruption, which was followed by no secondary fever. Mr. Dendy adverted to the present prevailing epidemic, which was of a most formidable character.

Dr. T. Thomson thought the vesicle produced by the variolo-vaccine was so frequently exactly similar to the one produced by the old matter, that we might depend upon it as as good and efficient a preventive for smallpox as the latter. It might, perhaps, be a little more active, in consequence of having been so recently obtained from the cow. With regard to the proper time for performing vaccination, he believed that in Paris, at the Foundling Hospital, all the children were vaccinated within the month, and the operation was generally successful. With respect to the susceptibility to the influence of secondary vaccination, he inquired if this might not depend a great deal upon changes which had been produced in the system by severe disease, particularly by fever? He had found that persons who had not been subjected to the annoyance of insect bites previously to the occurrence of a fever, had been so subjected afterwards. Dr. Jenner had considered that the efficacy of the vaccine lymph was somewhat modified by being within the atmosphere of the Smallpox Hospital, and that it was not so protective in that locality as in other places.

Mr. Linnecar considered that sufficient time had not yet elapsed since the introduction of the new matter, for us to come to any conclusion with respect to its efficiency. Mr. Leese, a very experienced vaccinator, had stated, some sessions ago, in that society, that he never knew a case of consecutive smallpox in a person in whose arm there were above four cicatrices from the previous vaccination. Had this been noticed by other practitioners? As secondary smallpox occurred to persons deeply pitted from the first attack, he did not think the test referred to was to be depended upon. The recent Vaccination Bill was a dead letter!

Dr. Chowne observed that, in the Smallpox Hospital, so great a dependence was placed upon the number of the cicatrices present, that the character of the consecutive disease was generally prognosticated from that circumstance alone.

Mr. Dendy believed that one vesicle, if it went through its proper stages, and produced a proper degree of constitutional disturbance, was as effective as twenty. It might be a presumption that such constitutional effect had taken place, if several cicatrices were present.

Mr. Proctor observed, that when vaccination was first introduced, it was never usual to attempt to obtain more than a single vesicle. Consecutive smallpox was very rare for a long time after Jenner's plan was introduced. We did not appear to improve in vaccination. If the system were fully under the influence of the vaccine disease, it afforded the best criterion of the patient's safety. A friend of his had lately lost a child from erysipelatous inflammation consequent upon vaccination.

Dr. Alison related a case of consecutive smallpox, occurring in an infant three or four months old, before the crust of the vaccine vesicle had fallen from the arm.—*Lancet*, February 6, 1841.

17. *On Gouty Concretions, with a new Method of Treatment.*—Alexander Ure, Esq., in a paper on this subject, read before the Royal Med. and Chirurg. Soc., introduces to the profession a remedy, which he believes likely to prevent the formation of tophous concretions in gouty subjects. The remedy is benzoic acid, administered in doses of a scruple an hour after a meal. "In the course of a couple of hours (as the author has found by frequent experiments made upon himself and others) the urine voided, amounting to five or six ounces, will be found, on adding a small quantity of muriatic acid, to yield a copious precipitate of beautiful rose-pink acicular crystals, which weigh, after being allowed to settle for a day, about fifteen grains." The body thus produced by the agency of vital chemistry is hippuric acid, and is found to have taken the place of uric acid in the urine, none of the latter being discoverable.

By thus substituting hippurate of soda, a salt of easy solubility, for the very sparingly soluble urate of that alkali, the author conceives that the formation of the tophous concretions may be altogether prevented.

Mr. Ure stated that he had employed the plan recommended in his paper in two or three cases with decided success. He had not found the dose, twenty grains, to be at all too large, and had frequently taken it himself without any unpleasant effects.—*Lancet*, February 6, 1841.

18. *On a Sedative Lotion in Headaches, Congestions, and Cerebral Fevers.*—Professor Raspail, in a letter to the editor of *l'Expérience*, (July 24, 1840,) gives the mode of preparing a lotion, the sedative effect of which, he says, is almost instantaneous. It is as follows: liquor of ammonia, (Qy. the strength?) 100 parts; distilled water, 900 parts; purified marine salt, 20 parts; camphor, 2 parts; essence of rose or some other scent, in the necessary proportion. The whole dissolved cold.

A piece of linen is to be steeped in this solution and applied over the part of the head that the patient points out as the seat of pain, taking care, if it is on the forehead, to apply a thick bandage over the eyebrows, to prevent any drops of the fluid passing into the eyes.

M. Raspail says he has seen headaches intolerably violent, accompanied by photophobia, and retraction of the globes of the eye, disappear completely, from a quarter to half an hour after the application of one wetted cloth. The linen is to be soaked as often as a new access of pain is threatened, and left on the head until it is necessary to soak it anew. In the numerous trials the author has made with this solution, first on himself and afterwards on others, he has been struck by two circumstances of interest in connection with organic chemistry, and symptomatology. When in a violent attack of cerebral fever, we apply on the principal seat of inflammation a concentrated solution of marine salt, an evident odour of chlorine is disengaged, the diseased reaction being analogous to the decomposing and deoxygenating action of manganese, in the elimination of chlorine from marine salt, by means of sulphuric acid. Is this sign constant in affections of this class? It is for experience to decide. When on the contrary we employ a solution of ammonia, a strongly characterized *hircine* (goatish) odour is manifested. The same odour has been disengaged on the application of hydrochloric acid to the skin. M. Raspail has drawn the attention of the profession to this subject in order that they may employ this formula, and fix their attention on the analyses of the disengaged substances, as they may become characteristic of special affections.—*B. & F. Med. Rev.*, Jan., 1841.

19. *Sulphur ointment in Smallpox.*—Dr. Midavaine recommends in an article in the *Annales de la Societé de Médecine de Gand* frictions with sulphur ointment in the treatment of Variola, with the view of arresting the development of the pustules, and consequently preventing the inflammatory fever which results from the turgescence of the skin or the secondary fever (*fièvre de resorption*), so fatal in the suppurative stage.

"The ointment which I use," says M. M. "has the double advantage of preventing suppuration of the pustules, and the cicatrices which ordinarily result from them. This ointment consists of one drachm and a half to two drachms (the first for varioloid, the latter in cases of confluent smallpox) united with an

ounce of lard, with which the whole face and those parts of the body covered with pustules are gently rubbed, three times a-day. The nearer the commencement of the eruption this is done, the greater the chances of success. The small pimples then contract and become completely indurated in place of enlarging, and the gastro-intestinal irritation completely disappears. It is rare, even in confluent variola, for the patients not to promptly recover their appetite and ask for food."

Dr. M. relates sixteen cases in which he has employed this treatment and with the most entire success.—*Journ. de Méd. et de Chi. Pratiques*, Dec. 1840.

---

20. *Treatment of Epilepsy by Cauterizations with Potash.*—Dr. Fievee, de Jumond, has published in the *Gazette des Hôpitaux* some cases of epilepsy cured by severe cauterizations, and he invites the attention of practioners to this measure, which he says he has resorted to successfully a number of times.

It is well known that epilepsy has been cured by the patients falling in the fire and severely burning themselves, and we presume this fact suggested the remedy just noticed, at all events it seems to afford encouragement to try the measure. We shall notice one of Mr. F.'s cases.

M. B. aged 45, strong constitution, has been epileptic for fifteen years. The attacks usually came on two or three times a month, and the patient had ordinarily two in the twelve hours.

Nineteen deep and large cauterizations made with caustic potash on the neck, on each side of the cervical and dorsal vertebræ, in series of four each time and at intervals of six weeks completely cured this long continued and horrible disease. Three years has elapsed without a single attack to interrupt the security of the patient or the satisfaction of the physician.

SURGICAL PATHOLOGY AND THERAPEUTICS, AND OPERATIVE SURGERY.

21. *Partial Injury of one of the Halves of the Spinal Marrow.* By M. Begin.—L., a robust old soldier, ætat. 59, received a wound from a sharp-pointed cutting instrument in the back of the neck. He fell immediately, and being unable to raise himself, was obliged to be carried to an adjacent house. He said he had been knocked down by some heavy weapon, and that he had fallen not in consequence of the wound in the neck, which he thought insignificant, but from the violent stunning which he felt at the instant he was struck. He fell *backwards* and on his right side, and there was a slight bruise on the right elbow, but no other sign of external violence, although he attributed the impossibility of moving his right limbs to the shock and the bruises which he had received in his fall, or more still to the blows which he affirmed had been given him while on the ground.

The wound was united by plaster, and the patient, regarding his injury as a slight matter, refused to be bled. On the next day he was taken to the Val-de-Grace, where M. Begin first saw him, in the evening. He then said that he felt nothing but a little numbness of the right side. His pulse was slightly excited; the wound had healed, and he would not be bled. Cold was applied to the head and neck, and warmth to the feet, and antiphlogistic diet was ordered. He passed the night quietly. Next day, on examining the united wound more closely, it was found to be in a transverse direction, half an inch long, at the level of the fifth cervical vertebra, and nearly an inch from its spinous process. Its angles were nearly equally acute, rendering it probable that it had been made with a double-edged instrument; there was neither ecchymosis, nor swelling, nor heat, nor pain, nor hardness about it; the movements of the head and neck were perfectly free, and unaccompanied by pain, even when carried to a considerable extent. The patient felt a kind of weight in his right arm, and had creeping sensations in the hand; with a little difficulty, however, he could raise the arm, and move the forearm; but the fingers half-flexed could neither

be opened nor closed completely. The right leg was absolutely motionless. A vague pain was felt along the right side of the chest, and there was perfect sensibility in every part of the body. The mind was clear: there was slight fever. The patient was bled freely both from the arm and locally; stimulants were applied to the feet, and cold to the head, and strict abstinence was observed.

On the third day after the accident there was a slight power of moving the right great toe. But there was much more fever, and the patient was again freely bled. On the fourth day, after a very quiet night, he was a good deal better, but at night he became feverish, excited, and delirious. This condition was somewhat relieved by leeches; but next day he had a violent shivering-fit, followed by incomplete reaction; at night he had low delirium, with an unequal pulse, difficult, hurried respiration, and hiccup, and with these increasing, he died early in the morning of the sixth day after receiving the wound.

At the examination of the body, the wound externally was scarcely discernible, but more deeply its course became more and more evident by the effusion of blood in the adjacent tissues. In the middle of the right lamina of the sixth cervical vertebra there was a fragment of a knife, which projected backwards for about a line, and had its back directed towards the median line. Having removed all the cervical portion of the vertebral column, and cleaned its fore-part, the point of the same portion of knife was found projecting about one-tenth of an inch between the sixth and seventh vertebræ. It had broken the upper edge of the body of the latter, and had stuck into, but not passed through, the posterior wall of the pharynx. The left side of the column was cut away, and the vertebral canal being thus opened, the medulla spinalis was found surrounded by pus mixed with the spinal fluid, and its surface was softened above and below the wound. It had been struck by the back or rather by the blunt edge of the blade of the knife, and the cut extended obliquely on the right side, from the level of the origin of the posterior roots of the nerves to the anterior median furrow. The posterior column was uninjured from the line of origin of the posterior roots to the posterior median furrow, while the anterior column was divided from the same point to the groove occupied by the anterior spinal artery.

The portion of the weapon that remained in the wound was an inch and three quarters long, and three-fifths of an inch broad at its base; it was part of a short and very sharp dagger-knife.

The shock that must have accompanied the violent penetration of the arch of the sixth vertebra, and the intervertebral cartilage, as well as the part of the body of the seventh vertebra, perfectly explains the sensation of bruising and the stunning which the patient felt at the instant of receiving the wound. Neither during life nor after death was there any erection of the penis.

[This case is interesting in every way, but especially in its obvious bearing on the functions of the columns of the spinal marrow, and the nerves respectively connected with them.]—*B. & F. Med. Rev.*, from *Bull. de l'Acad. de Méd.*, Dec. 15, 1840.

—

22. *On the Removal of Foreign Bodies in the Joints by means of Subcutaneous Incisions.* By Dr. Goyrand, of Aix.—This new method of operating was suggested by the fact, that incisions made into joints through such small external openings that the air cannot obtain admittance to the cavity, are never productive of that severity of inflammation which follows wounds with wide external apertures, and which, in the operations hitherto performed for this disease, has so often terminated fatally. The proceeding recommended by the author consists in pushing the loose body (if in the knee-joint,) into the synovial pouch above and to the outer side of the patella, beneath the vastus externus muscle, and while an assistant holds it fixed there, passing a narrow knife through the skin at some distance above the joint, and through all the intermediate tissues down to the foreign body. Without enlarging the opening in the skin, the synovial membrane and adjacent tissues over the loose substance are now to be freely divided, till, by the pressure on the latter, it slips out of the joint through the wound, and lodges itself in the subcutaneous cellular tissue, or in some of

the other tissues between the skin and the joint. After this the patient must remain at rest for several days, (the small external aperture being merely covered by sticking-plaster,) till all chance of inflammation occurring has passed away. The foreign body dislodged from the interior of the joint, will form a cyst for itself, and remain in its new position without producing any annoyance; but, if it should be deemed necessary, it may easily be removed by a single incision through the skin over it, which will no longer be likely to excite any inflammation of the joint itself.

The author details a case in which this method of operating was adopted with perfect success. Two loose cartilages were dislodged, and pushed into the tissues adjacent to the joint. One was subsequently removed by an incision through the skin; the other was allowed to remain, and it produced no inconvenience whatever. Through the whole course of the treatment the patient had not a bad symptom, although less precautions were adopted than are usual in this description of cases.

[We understand that Mr. Syme, of Edinburgh, performed this operation, and with complete success, without previous knowledge of M. Goyrand's proceeding.]—*Ibid.*, from *Annales de la Chirurg. Française et Etrangère*, Jan. 1841.

—

23. *Successful Performance of Tracheotomy in a case of Croup.* By M. Saussier.—The case occurred in the hospital of La Pitié, in a boy two years old, who had been operated on for hare-lip, by M. Sanson. The first croupy symptoms appeared ten days after the operation, and after the unsuccessful employment of leeches and emetics, the child seeming to be in imminent danger of suffocation, the operation was performed. White patches had formed upon the tonsils and arches of the palate, afterwards on the tongue and internal surface of the cheeks, and deglutition had become impossible.

The operation was followed by instant relief. M. Saussier cleaned out the trachea with a sponge, which he introduced several times, and upon which he withdrew a transparent pellicle, about two centimetres broad. Ten minutes afterwards, the canula was introduced, and the child almost immediately fell asleep.

During the three following days, eleven distinct, thick, yellow, false membranes were either expelled naturally by the patient, or withdrawn from the trachea by means of the sponge. The trachea was cauterized four times with a solution of sixty centigrammes of nitrate of silver in four grammes of water. The canula was changed thrice.

The canula was finally removed on the thirteenth day, and the teazing cough and frequent expectoration of thick mucosities which had continued till then, immediately ceased. On the sixteenth day the wound was healed, and at the end of August the child was discharged, having been operated on on the 3d of June.—*Ibid*, from *L'Expérience*, Dec. 3, 1840.

—

24. *Chloride of Zinc in the Treatment of Acute and Chronic Gonorrhœa.* By M. Gaudriot. After a large number of observations the author of this memoir concludes that the chloride of zinc, properly diluted, has a remarkable power in curing simple gonorrhœa of the urethra and vagina, also in dilating the urethra, and thereby ameliorating strictures. He believes that it is always by an inflammation *sui generis* that the discharge is cured, and that injections of the chloride of zinc determine a series of phenomena not produced by other caustics. It is only necessary to use a few drops of injection, as the extremity of the urethra is the only part to which it should be applied. To combat vaginal gonorrhœa in women, M. Gaudriot proposes a new proceeding, which consists in the use of solid vaginal suppositories, composed of a paste made to melt easily, and containing a certain quantity of liquid chloride of zinc and sulphate of morphine.

In men the author employs the following formula:

Liquid chloride of zinc, 24 to 36 drops.
Distilled water, four ounces.
Agitate and filter through paper.

A small quantity of this solution should be injected about an inch along the urethra, two or three times a day.

The vaginal suppository which he employs is formed of

Liquid chloride of zinc, 5 drops.
Sulphate of morphine, half a grain.
Mix with three drachms of the following paste!
Mucilage of gum tragacanth, 6 parts.
Powdered sugar, 3 "
Starch powder, 9 "

To cure radically a gonorrhœa in man, it will ordinarily suffice to apply two injections a day for two or three days. The first injections are almost always followed by a more or less swelling of the glans penis, but this does not prevent their continuance.

In women, four or six suppositories, one being introduced every day, or every second day, suffice to obtain a cure. The first introductions frequently occasion a swelling with more or less heat of the vulva, but these phenomena are soon completely dissipated. Emollient baths have in most of the cases been employed for this purpose.—*Ibid.*, from *Journ. des Connaiss. Méd. Prat. et de Pharmacologie*, Sept. 1840.

—

25. *Ligature of the common Carotid Artery, and Experiments on the Ligature of both Carotids in Animals.*—M. Jobert, de Lamballe, has addressed a memoir to the Royal Academy of Medicine, containing a case where he tied the common carotid to cure an erectile tumour of the orbit, and also the result of his experiments on living animals, to determine the influence that ligature of both carotids would have upon them.

Ligature of the common carotid on either side does not stop the course of the blood through the ramifications of the tied artery; how then can it effect the cure of erectile tumours of the face and head? M. Jobert replies, 1st, by the sudden subtraction of a large quantity of blood from the tumour; 2, by giving an obstacle to the transmission of the impulse of the heart, in its full energy towards the tumour. He has convinced himself by his experiments, that beyond the ligature, the blood runs in a continual jet, waving, and without jerk (*saccade*). His conclusions are, 1st, that erectile tumours of the orbit, destroy the bones after the manner of aneurisms; 2d, they have the characters of aneurismal tumours, and are cured by ligature of the common carotid of the same side; 3d, the cure is not owing to obliteration of the artery beyond the ligature, but to diminished impulse of the column of blood arriving in the tumour; 4th, the vertebral arteries suffice for the cerebral circulation after ligature of the carotids; 5th, dogs, sheep, and rabbits do not experience ill effects after this operation; 6th, horses on the contrary do not survive it, dying with pulmonary apoplexies; 7th, blood-lettings before or after the ligature, diminish the intensity of the pulmonary lesions; 8th, perhaps in man, the loss of a certain quantity of blood after the operation, would have good effect.—*Rev. Méd.*, Sept. 1840.

MM. Berard, Gimelle, and Larrey, who were appointed as a committee to examine the memoir of M. Jobert, consider it of importance; 1st, as adding two cases of cure of erectile tumours, one in the orbit by ligature of this carotid, to four other cases previously recorded; 2d, as the experiments prove the harmlessness of ligature of both carotids, in those animals whose vertebral arteries enter the cranium of a calibre sufficiently large to keep up the cerebral circulation and avoid pulmonary congestion; 3d, as it proves that the brain and the organs of the senses preserve their functions entire after this ligature; 4th, as it places beyond doubt, that animals who from their anatomical construction survive the ligature of the common carotid arteries, are not affected with lesions of the organs of the senses as described by authors; 5th, as these experiments and their results will exercise a great influence on the surgical therapeutics of diseases, for the cure of which ligature of the common carotids might be proposed. —*Ibid.*, from *Bull. de l'Acad. Royale de Méd.*, Oct. 15 and 30, 1840.

26. *On Resection of the Elbow-Joint.* By M. Roux.—Within the last twenty months I have performed the operation of excision of the elbow-joint three times; one in July, 1839; another in 1840: and the third in the month of September last. These are not the only cases in which I have performed a similar operation; but I submit them to my surgical brethren, chiefly on account of an improvement in the mode of operation, which I believe to be of some importance.

We all know that when white swellings have arrived at a certain degree, the surgeon has no other resource left than to amputate the limb, or excise the diseased joint. Each method of relief has its advantages and disadvantages; but they are not applicable to all joints, nor can they be compared together, except in relation to certain cases. For my own part, I strongly incline to the propriety of excision of some joints, whenever such an operation is practicable. Since the year 1812, I have excised the elbow-joint eleven times, and this sum total exceeds that of all the other important joints put together, for I do not now speak either of the smaller articulations, or of cases in which only a portion of a joint has been removed. Of the eleven operations three terminated fatally, the remaining eight recovered; of some patients I lost sight; but two I had an opportunity of watching for a long time; one of the latter was a chambermaid, and for fifteen years she was able to follow her usual occupations; she is now married, and conducts a commercial establishment; the other, also, was in a condition to follow his trade during ten or twelve years.

In my first eight cases I adopted the common mode of operating. I made two incisions, one on each side of the joint, and a transverse one behind, on a level with the olecranon, so as to expose the hard parts. But this mode gave rise to several inconveniences, particularly with reference to the after treatment and dressing of the wound. Hence I resolved, even at the risk of making the operation more difficult, to modify it, by making an external and a transverse incision only, and thus forming two triangular flaps, united in such a manner that the limb may be retained in a perfect state of rest during the after treatment. I have employed this method in the three cases now submitted to the Academy, and have some reason to believe that it has contributed not a little to their happy termination. *Provincial Med. and Surg. Journal*, from *Bull. de l'Acad.*, *March* 31, 1841.

—

27. *Reduction of Hemorrhoidal Tumours.*—Much difficulty is sometimes experienced in returning protruded hemorrhoids. Pressure alone is applied in vain. But if the patient be directed, Dr. Marshal Hall says, to make a forcible expulsive effort, and pressure be simultaneously made, the tumour frequently recedes immediately, the sphincter is positively relaxed, the ligature which it formed round the tumour is removed, and the reduction is easy.

Dr. Hall inquires whether a similar measure would aid the accoucheur in returning prolapsus uteri? *Lancet*, March 13, 1841.

—

28. *Wound of the Heart.*—Professor Malle relates in his *Clinique Chirurgicale de l'Hopital d'Instruction de Strasbourg*, the following remarkable case of wound of the heart.

"A soldier, ætat. 31, was amusing himself with a comrade in firing, when suddenly his friend's gun burst, and wounded him. He fell instantly in syncope, but soon regained his senses and complained of a severe pain behind the sternum. He was carried to the hospital, where he presented the following symptoms. About two inches on the inner side of the left nipple, between the sixth and seventh ribs, there was a small wound, which gave passage neither to blood nor to air. The chest was normally resonant beneath it; the patient had some bloody expectoration; the heart's motions were obscure and the pulse feeble; there was dyspnœa; the skin was cold, the face pale, and the patient felt as if he should faint. The surgeon in attendance regarding the greater part of these symptoms as the effect of the fright, ordered some simple means. Four hours after reaction took place, and the patient was bled to ten ounces, after which the expectoration of blood completely ceased. The pulsations of the heart, however, remained obscure, the pulse was small, and the sternal pain

continued; but the face had regained its colour, the heat of the surface had returned, and the threatenings of fainting had passed away; he was bled again in the evening.

"Next day, the patient had passed a tranquil night; the pulse was fuller and regular, at 100; the face flushed but expressive of suffering; the pain behind the sternum continued; the ear distinguished at the part a kind of undulatory crepitation, something like that heard in a varicose aneurism; and there was a little crepitation in the left lung near the heart. Everywhere else the natural respiratory murmur was heard, though the dyspnœa continued; the horizontal position was irksome. The patient was again bled to ten ounces, and cupped over the heart. On each of the two following days the condition of the patient remained unaltered, and the same depletory means were repeated.

"On the fourth day after the accident he was better; he had slept four hours and had lost his faintness. He had less pain, there was no longer any râle, the pulse was less frequent and regular. The improvement continued during the succeeding days; the patient had some appetite and took some light food. The pain behind the sternum was almost gone; but there was still dulness in the precordial region; the pulse remained feeble, and he did not evidently gain strength. His apparent convalescence, though it advanced slowly, would probably have been more marked had it not been twice or three times interrupted by the patient's heat of temper and refusal of being restrained to perfect quietude. After each fit of anger, his cough became worse, the dullness in the precordial region more extensive, the pain at the sternum more acute, and the pulsations of the heart more obscure; and for every such aggravation of symptoms depletions were required and were generally efficient. He continued thus alternately improving and suffering from a return or aggravation of his first symptoms up to the forty-second day after the accident, when his condition was such as to permit a hope that his recovery would be permanent. At this time, however, he was seized, without any evident cause, with erysipelas of the left leg, with fever, &c.; his old symptoms returned with irrepressible violence, and he died on the 14th of May, having received the wound on the 28th of March.

"On examination the brain and the abdominal organs were found healthy. In the chest at the wounded part there was a cicatrix scarcely firm. The right lung presented on its anterior surface and near the heart, a small cicatrix, which was also discoverable under the corresponding portion posteriorly, proving that the lung had been perforated. It was also hepatized for about four inches, and united by some slight adhesions to the pleura. The pericardium was larger than usual, and at first appeared distended with liquid. It contained about five ounces of reddish sanies, and some fibrinous clots, two of which adhered to the heart. A foreign body was fixed in the left ventricle. On closer examination this was found to be a portion of the stock of the gun that had burst; it was situated at the front and about the middle third of the ventricle; its free extremity, which was about as large as a full-sized writing quill, projecting about ten lines; the cavity of the ventricle contained a very firm coagulum extending into the aorta. The piece of wood had traversed the left ventricle and the septum, and projected into the cavity of the right ventricle. Its direction was obliquely from without inwards and from below upwards; its form was somewhat triangular, tapering irregularly from the part that projected in front to that which traversed the septum. The internal surface of the heart was red, and in parts a little softened, especially near the apex; near the valves, on the contrary, the membrane appeared slightly hypertrophied."—*Brit. and For. Med. Rev.* July, 1840.

—

29. *Clinical Lecture on Fissure of the Anus.* By M. Velpeau. The patient who now occupies bed No. — is affected with fissure of the anus, a disease which still requires for its elucidation careful research. Notwithstanding the labours of Boyer, Beclard, Dupuytren, and a few other surgeons, I believe that we have much to learn of the causes, symptoms, and treatment of this painful affection; I shall, therefore, embrace the present opportunity of directing your attention to this subject.

Fissure of the anus consists in the existence of a small narrow ulceration seated in the radiating folds at the margin of the anus, and usually attended with very excruciating pain, whenever the patient goes to stool. Before Boyer's time this disease was almost entirely unknown, and if we examine what has been said concerning it by writers who preceded him, we shall be convinced that our knowledge of its causes, symptoms, &c., dates within the last twenty-five or thirty years.

Let us first turn our attention to the *causes* of fissure of the anus. This disease may be excited by constipation, piles, the evacuation of hard fæcal matter, in large masses, by mechanical injury, from the end of a lavement apparatus, for example, &c.; but in many cases it is developed without our being able to discover or trace any probable cause. It arises, in most instances, in a very gradual manner, and soon assumes the characters of other ulcerations about the part; hence we find great difficulty in assigning to it its true and efficient cause; nor do I think that we could produce the disease by artificial means. It exists in individuals of both sexes, but attacks females more frequently than males; it commonly appears between the ages of twenty-five and sixty, but has been observed at the ages of eighteen or twenty. I have seen it in a young man eighteen years of age, and in a girl of twenty-one; children, however, seem to be exempt from this affection. One of the most remarkable points connected with the history of fissure of the anus is the great pain and suffering by which it is accompanied; effects which we are unable to reconcile with the slight degree of organic injury constituting the complaint. M. Blandin and M. Harvey de Chégoin think that fissures seated above or below the sphincter ani are of an insignificant nature, and heal of their own accord, or under the most simple treatment; while other fissures are attended by the symptoms described by Boyer. This seems to me to be a speculative distinction, for I have seen several cases of fissure of the anus in which violent pain was a prominent symptom, although the affection did not implicate the sphincter muscle of the anus.

One circumstance, gentlemen, connected with the history of this disease, merits particular attention. The sphincter ani muscle is in a state of permanent constriction. But is this a cause or an effect of the disease? Boyer asserted that this constriction formed a principal exciting cause, since division of the sphincter muscle immediately calms all suffering, without any application whatever having been made to the fissure itself. On the other other hand, MM. Roche, Sanson, and Blandin contend that the constriction of the sphincter is a result of the complaint, because the ulceration may frequently exist without our being able to discover it. We cannot, it is true, deny that fissure may sometimes exist without constriction, although it be accompanied by the signs of the latter affection, such as violent pain, burning heat, &c., on going to stool. I have witnessed several examples of this: but who can affirm there is no fissure, merely because the surgeon who examines may be unable to find one? The great authority of Boyer is the only cause of our attaching any weight to his assertions, for they have never been confirmed by the result of *post mortem* examinations. Perhaps, however, there may be some means of reconciling opinions on this interesting point in the history of fissure of the anus. Thus, we can understand how a small fissure, being irritated by the passage of stercoraceous matter, may excite spasmodic constriction in the muscular bands underneath it; and again, we can believe that strong spasmodic contraction of the anus, by inducing costiveness, may induce excoriation of the skin about the anus, and thus become a cause of fissure. Under this point of view constriction of the sphincter ani and fissure are two distinct affections which are independent, but have a strong tendency to merge one into the other.

The *symptoms* of the disease are the following; the patient first experiences some pain on going to stool, and for some time after an evacuation from the bowels. The pain gradually increases in intensity and period of duration, and when it has arrived at its maximum, the patient suffers the most excruciating torture. The sensation excited by the passage of fæces is compared by the

patient to the pain occasioned by a red hot iron, or to the tearing asunder the margin of the anus, and brings on a feeling of faintness or threatening of convulsions. In the intervals between each stool, the patient merely feels some lancinating pain or scalding, with a sense of weight about the part, and colic. As the time for evacuating the bowels approaches, the pain is manifestly increased, is most violent during the moment of expelling the fæces, and then gradually declines for a few hours. It occupies a circumscribed space about the margin of the anus, and is often attended by pulsation of the vessels like that which accompanies phlegmonous inflammation. The bowels now become obstinately constipated, and evacuations take place every eight or ten days, unless purgatives or clysters be employed. The patient feels such a dread of going to stool, that he defers the moment as long as possible, although he knows that such conduct will aggravate his sufferings. One patient, at the Hôtel Dieu, was heard to exclaim that he would rather die than go to the water-closet, so great was the pain during evacuation of the bowels. Some persons who labour under this disease have recourse to curious methods of avoiding the inconveniences occasioned by the passage of fæcal matter; thus, Boyer mentions the case of a lady who kept a canula constantly fixed in the rectum, to prevent the suffering which she experienced at each evacuation. But fluid stools, or even the passage of air, will occasionally excite very severe pain. Some patients are able to walk about, sit down, or attend to their ordinary business during the intervals between the attacks, but others are compelled to keep their beds in spite of the increased heat and pain thus occasioned. The shooting pains extend towards the bladder or uterus, and in some cases to the hypogastric region. The digestion is impaired; the patient eats little, to avoid the necessity of going to stool; he becomes thin and of a yellow hue; the face is expressive of suffering, and on looking at it, one would say that the patient laboured under some severe organic disease; occasionally the slightest movement will excite the accesses of pain; coughing, spitting, blowing the nose, speaking or singing will aggravate it; any excess in eating or drinking will have a similar effect. The presence of the catamenia, also, increases the sufferings of women. The pain is at once excited by introducing any body into the rectum, as the pipe of a syringe, &c., and when we attempt to pass up the finger, we not only occasion severe agony, but feel that it is powerfully grasped by the constrictor muscle of the anus.

On separating the folds of the anus and drawing the rectum gently down, we perceive, at the bottom of some one fold, a small ulcerated fissure about one or two lines broad, by four, eight, ten, or twelve in length. The edges of the fissure are generally free from hardness; they are of a bright red colour, and bear the strongest resemblance to the cracks which so often exist in the hands, feet, or corners of the mouth. A very small quantity of pus may be discharged from the fissure, and in some cases a little blood. It often happens that we find it extremely difficult to discover the fissure, hidden as it is in the folds of the anus, which is usually, in such cases, more or less of a funnel shape; we must carefully unfold the integuments, and desire the patient to make a few expulsive efforts. The fissure is then exposed; it may occupy any point of the margin of the anus, may scarcely reach the edge of the mucous membrane, or may be confined to the parts above the spincter. In many cases the fissure seems to commence from or terminate in a pile; and usually it extends in a vertical direction upwards. We can often assure ourselves of the existence of this lesion by the mere touch; the instant the finger comes in contact with the fissure, the most violent pain is experienced by the patient, and we feel a hard, wrinkled cord, which indicates the precise situation of the crack. Such, gentlemen, are the ordinary symptoms of fissure of the anus; severe burning pain at the moment of going to stool; narrow, elongated and superficial ulceration at the edge of the anus; and violent contraction of the sphincter muscle.

Progress of the disease.—Fissure of the anus does not present all the symptoms now enumerated, from its commencement; it begins with very slight pain, or itching; tickling feel or creeping sensation, with heat after each stool. These symptoms may continue for six months, or even a year, before they become

sufficiently severe to excite much attention. In other cases, the disease will acquire its greatest degree of intensity in a few weeks, or may be very severe from the commencement. You are not, either, to imagine that the series of symptoms already described will present itself in every case; many patients feel no pain whatever; others (and the patient on whom I am about to operate is of this class) suffer severe and almost constant pain. Our patient has a long fissure, with grayish, irregular, and granulated base, resting on indurated cellular tissue. She suffers much from burning pain whenever she goes to stool; the anus contracts violently, and it is with the utmost difficulty that we can introduce a canula, or even the tip of the little finger. You should therefore remember that Boyer's description of fissure of the anus is merely a general one, and that several varieties may present themselves to us, in which the symptoms described by Boyer do not exist, and to which the treatment recommended by him would be inapplicable.

Treatment.—Some cases of painful fissure may get well of their own accord. I knew a medical student who laboured under this disease for seven or eight years, and then recovered without operation or any treatment. A few days ago I saw a patient in town who equally got well without treatment, after three or four years. However, patients are in general very anxious to adopt some means of relieving their sufferings, and removing the unpleasant disease under which they labour. This may be effected with or without operation. Several ointments have been employed for this purpose. Boyer obtained a cure in one case by throwing into the rectum two or three spoonfuls per day of an injection composed of hog's lard, walnut juice, sorrel juice, and almond oil, of each four ounces; but here the fissure was attended with slight contraction of the sphincter.

M. Descudé informs us that we can cure the disease with large doses of the oleum hyosciami, and topical applications of mercurial ointment. Some surgeons speak highly of *douches* of cold water, of decoctions of chœrophyllum or poppy heads, &c. In a few cases I have succeeded with white precipitate ointment. Dupuytren employed with excellent effect, the following ointment, introduced into the anus by means of a tent: extract of belladonna, two drachms; lard, two ounces; honey, two ounces. More recently some practitioners have spoken in very favourable terms of *monesia*, and one or two cases of cure by this remedy have been cited; but I fear that it will soon meet with the fate of most of our new remedies, which flourish for a time and are heard of no more. When the above mentioned means have been tried (and we must often try them to satisfy our patients) without success, we must have recourse to one of the following, viz., cauterization, dilatation, division of the sphincter muscle, or excision of the fissure. The disease is sometimes cured in the most satisfactory manner by running a stick of nitrate of silver over the whole surface of the fissure. Beclard pretends that he never failed in this way; but other surgeons have not met with the same success; I have tried it myself in many cases without obtaining any benefit, and think that the cases which presented themselves to Beclard, must have been slight, and unaccompanied with contraction of the sphincter muscle; besides, Beclard employed dilatation at the same time. Cauterization can only cure fissure of the anus by modifying the ulcerated surface, and transforming it into a simple wound, which heals like common solutions of continuity. In this way we explain the success obtained by Guy de Chauliac, and Dionis, who cauterized or scarified the ulcers, and by Guerin, &c., who applied the actual cautery, or irritated the surface of the sore with the nail, &c.

Dilatation, by the introduction of tents of lint gradually enlarged, into the rectum, has often been attended with the best effects in the hands of Beclard, Dubois, Marjolin, and others. I have employed this mode of treatment with success in some cases, but it is often tedious and painful. In order to shorten the period of pain and diminish its violence, we should employ the largest tents that we can introduce into the rectum. The pain is at first very severe, but as soon as we get to the fourth or fifth tent it is much mitigated; the tents may be

covered with any of the ointments which I have already mentioned to you. However, I should remark that the composition of the ointment does not seem to have any effect whatever. I have tried them all, and afterwards common cerate, and found the latter to answer as well. Dilatation then is the chief element of cure in such cases, and I believe that considerable success would attend its use if we could induce our patients to resist the pain which it, in the first instance, always occasions.

Incision of the sphincter ani was proposed by Boyer, and recommended by him as the best, indeed the only mode of treating fissure of the anus; his practice has been followed by most of our surgeons up to the present day. Boyer regards this method as infallible, yet several practitioners mention cases in which it has failed. He was naturally led to advocate this mode of practice, because he believed that contraction of the sphincter ani was the chief cause of fissure.

The preparatory steps of this operation are exactly the same as those for fistula in ano. The lower intestines are to be emptied by means of a lavement, or some mild purgative, in order to ensure quietude for some time after the operation. The instruments employed are a straight, probe-pointed bistoury; a common bistoury; a large tent; a T bandage, and all the minor accessories. The patient is placed on the edge of a bed, with the head low, the under limb extended, the upper one flexed, and the buttocks kept widely apart by assistants. The surgeon now introduces the index finger of his left hand into the rectum, guides along it the flat side of his probe-pointed bistoury, and divides the sphincter. Should the fissure occupy the median line in front, he must not cut upwards, for fear of injuring the urethra or vagina. Boyer thought it sufficient to divide the sphincter at any point, without caring where the fissure may be; but I am of opinion that you will do well to pass the blade of the knife through the fissure at the same time that you divide the muscle. When this has been accomplished, you continue the incision upwards and downwards for an inch or two, so as to cut through the whole thickness of the sphincter. A single incision is usually sufficient; but if there be several fissures, or if excessive contraction of the sphincter be present, then we must make a second incision on the opposite side of the anus. When the edges of the fissure are rounded off, hard, and thickened, we seize them with a forceps, and remove the hardened portions either with the knife or scissors.

The dressing is very simple. A tent of lint covered with cerate is placed between the lips of the wound, but its upper extremity must reach about an inch beyond the superior angle of the incision. The space between the buttocks is then filled with lint, and the whole supported with a T bandage. The tent must be supplied every day until cicatrization takes place. I have said nothing of the occurrence of hemorrhage, for it is almost impossible that any such accident should happen; but were it to arrive, you must have recourse to the usual means of arresting it, with which you are all familiar.

Such, gentlemen, are the methods of treatment generally employed for the cure of fissure of the anus; cauterization, dilatation, incision. The latter treatment is successful in a vast majority of cases; but as some modern practitioners have insisted on the point, that constriction of the anus is the effect, not the cause of fissure, their opinions have produced some new ideas relative to the treatment of this affection. Upon the principles of these gentlemen, I have practised excision of the fissure instead of dividing the sphincter muscle. This operation had been highly spoken of by Mothe and Guérin; I had mentioned it myself in 1832, and some of my operations were published in 1836. The following is the method which I adopted. The patient is placed in the same position as for incision of the sphincter; the point of the border of the anus occupied by the fissure is then seized with a hook, and a couple of strokes of the bistoury on the right and left complete the excision of the fissured part. Sometimes I employed the scissors to remove it, but always avoided cutting the muscular tissue underneath. The operation is soon over, and unattended with pain; I have performed it eight or ten times at least, and have almost always succeeded

in curing the patient. In one or two failures I was unable to find out whether the want of success depended on my not having cut out all the diseased structure, or on some other cause. I believe that when the complaint is of long standing, we should divide the sphincter, and at the same time remove the ulceration; that is to say, combine incision and excision together. I shall do this in the case we are about to operate on. The disease here has existed for several years; the ulcer is large, with a grayish, lardaceous base; and it is very probable that simple incision of the muscle would fail to effect a cure. You may ask me, perhaps, why I employ excision, and do not remain content with division of the muscle, a mode of treatment which has been sanctioned by experience. My reasons are the following. Division of the sphincter is an easy and quick operation, and attended almost certainly with success; but it compels us to cut through the deeper-seated tissues beyond the muscle. The wound which results always suppurates for some time, and may occasion dangerous accidents. The inflammation and formation of matter may extend to the pelvis, and compromise the patient's life. I have seen two cases in which the patients died after a division of the sphincter for fissure of the anus. The operation of excision is entirely free from this danger, because the cellular tissue beyond the sphincter is not touched. The resulting inflammation is very slight, and the wound requires to be dressed for three or four days only. Finally, it is an operation much more simple than division, and one which we should always prefer in recent cases; but when the disease is of long standing, and the contraction of the sphincter violent, we should combine the two operations, so as to ensure success in the most obstinate cases.—*Provincial Med. and Surg. Journal*, April 3, 1841.

—

30. *Case of Dislocation of the Cervical Vertebræ cured.* By Dr. Schuk, of Vienna.—A man, 24 years of age, whilst engaged at his work on the 5th of December, 1838, twisted his head suddenly round, in consequence of one of his companions roaring into his ear, when he instantly felt something give way in his neck, and found it impossible to move his head. Next morning, when he applied for assistance, his face was swollen, his head turned to the right, and bent down towards the shoulder. His neck was slightly arched on the left side, but hollowed out on the right. He complained of pain, which was augmented on pressure over the seat of the third, fourth, and fifth cervical vertebræ, and he was unable to move the head in any direction; every attempt to do so gave pain. The direction of the spinous processes of these vertebræ could not be accurately ascertained. He complained of weakness of the right arm, and could only raise it with great effort. The other functions of the body appeared to be natural. It was thus apparent that partial dislocation of some of the cervical vertebræ existed, and some attempts were made to reduce it by drawing the head directly upwards, the trunk of the body being held fixed; these, however, failed, but they gave no pain.

On the 7th of December, the weakness and numbness of the right arm were greater. New efforts were therefore made to effect the reduction of the dislocation. The patient was laid in the horizontal posture, the shoulders were held fixed by means of folded sheets, whilst a towel was passed under the chin, in order to allow of a greater force being used for the extension; an assistant supported the occiput with both his hands. Extension was then made and gradually augmented, till the patient and assistant felt a snap as of two bones meeting. The extension was then gently relaxed, when it was found that the head was restored to its normal position, and the power of moving it was restored. The weakness of the limb, however, remained, and was even worse next day. On the 9th, he complained of vertigo and starting during his sleep, and his pulse was quick. For this he was bled to a considerable extent, which induced fainting and convulsions. He passed, however, a good night, and next day his pulse was nearly natural, the vertigo was gone, and he had partially regained the use of the right arm. He left the hospital cured on the 13th.—*Ed. Med. and Surg. Journ.*, from *Medizinische Jahrbuch des Osterreichischen Staates*, vol. xxx, 1840.

31. *On the Auscultatory Phenomena in externally situated Aneurisms, and on the difference between an independent and a communicated pulsation in Tumours.* By Dr. Schuk, of Vienna. When the stethoscope is placed over an aneurismal sac, or over a diffused aneurism, one perceives a very loud uninterrupted bellows-sound increasing with each pulsation. It is the more marked the more powerful the action of the heart is; the nearer the aneurism is to the heart, the rougher the wall of the artery turned towards the blood is, and the easier the blood contained in the aneurismal cavity can be put into eddying and vibratory motions by the wave of blood passing through it. The last circumstance explains why, in enormously large aneurisms with but few layers of coagulum, as well as in those of which the sac contains scarcely anything but layers of coagulated lymph, the bellows-sound is proportionally weak. In the first of these cases the quantity of fluid is too great for all its parts to be put into strong vibration by the current of blood; and, in the second, the quantity of fluid put in motion is small, and the layers of lymph, laid one over the other, hinder, in some measure, the conduction of the sound.

When the blowing is remarkably loud, it is observable that the note of the murmur is not equally high throughout; but that at the beginning of the diastole of the artery it appears higher, and thence decreases remarkably till the next diastole.

This murmur extends for a considerable distance both towards the heart and even somewhat further towards the distal portion of the artery, and becomes weaker as it is examined at a greater distance from the aneurism.

The causes of the murmur are, first, the friction of the current of blood on the rough walls of the aneurism, or the fibrine, or on the edges of the orifice of communication between the artery and the aneurismal pouch; second, the vibration or eddying motion of the fluid blood contained in the aneurism, excited by the current of blood passing through it.

In a varicose aneurism the auscultatory signs are heard in the most striking manner. I had not long since two opportunities of observing this condition; in both it resulted from unfortunate venesection at the bend of the elbow. In these cases the murmur, by its intensity, becomes a whizzing sound, and the equality of the strength, as well as of the note of the sound at the different movements of the motion of the blood, is very remarkable. These phenomena are already distinct at a period of the disease when, from its short duration, but little dilatation of the wounded vein has taken place, and they are, therefore, of essential use in facilitating and supporting the diagnosis. The loudest sound is heard at that part at which the purring can be most distinctly felt with the finger; that is, where the arterial current excites the vibrations of the venous blood. With the distance from this part, the sound gradually decreases in loudness, and at last merges into a bellows-sound, which is audible only during the diastole of of the artery, and which is recognized on whatever part of the limb the stethoscope is placed, as well at the shoulder-joint as at the dorsal and palmar surfaces of the hand.

The phenomena just mentioned are of themselves, and for their own sakes, interesting, and they increase the probability of the diagnosis of aneurisms of all kinds. But their practical value appears especially evident in reference to the fact, that by their means one may distinguish an independently pulsating tumour, *i. e.*, an aneurism, from one to which pulsation is only communicated. In all works on surgery we constantly meet with expressions of regret that it is in many cases so difficult to determine whether a tumour which has the symptoms of both a visible and a sensible pulsation is an aneurism, or whether the motion is only communicated to a morbid growth by the artery running under it. If the tumour can be pushed aside, and if, when its position is changed, the pulsation ceases because the artery now no longer runs under it, one may be quite sure there is no aneurism. But this cannot always be done, and in such a case, doubt, as to nature of the disease, must sometimes exist in the mind even of an experienced surgeon.

If by pressing it with the finger we lessen the calibre of an artery, for instance the external iliac, to a certain extent, and sufficiently for the finger to perceive the sensation of purring, we may hear *a blowing sound at the moment of the pul-*

sation, along the whole course of the femoral artery down to the knee, but which, though evident and easily recognized, is yet far weaker than in an aneurism. It bears the greatest resemblance to what is called the placental murmur in pregnant woman, only it is for the most part of short continuance, and limited to the moment of the arterial diastole. The phenomena that are thus artificially produced not unfrequently occur naturally in consequence of the pressure of tumors or morbid products on the arteries. If the pressure is too considerable, or too slight, no blowing is produced; in the former circumstance, because the arterial walls are brought into contact, and the circulation is prevented at that part; in the latter, because the slight pressure is not sufficient to give rise to such an obstruction of the blood as to produce a murmur of the increased friction between the blood and the arterial wall. Large thyroid glands, comprising, in some measure, the carotid, afford the most frequent opportunities of testing the truth of these observations. The blowing becomes in the same proportion weaker, and at last entirely ceases as the gland gradually diminishes in size under the use of remedies. This short consideration of the matter, therefore, warrants the following conclusion;—a tumor which pulsates synchronously with the adjacent artery may be considered to be an aneurism when the murmur heard with the stethoscope is loud, uninterrupted, loudest and often highest in its note at the commencement of the diastole of the artery, and gradually from that point of time decreasing in intensity; but the pulsation is only one communicated from a subjacent artery when the murmur is either altogether absent, or, if present, is heard only at the moment of the pulsation.—*Lond. Med. Gaz.* Dec. 1840, from *Med. Jahrb. des Orsterreitchischen Staates*, *B.* xxi. *S.* 3.

—

32. *On Pneumonia in connection with, or as a consequence of, Surgical Operations and Injuries.*—In the *London Medical Gazette* for February last, there are some interesting remarks on this subject, by Mr. J. E. Erichsen. From a table which he gives of 41 deaths, occurring from various injuries and diseases in the surgical wards of University College Hospital (in which an account of the state of the lungs was kept), these viscera were found in twenty-three cases to be in the first or second stages of pneumonia. Of the remaining eighteen cases, the lungs, with the exception of a few cases in which scattered tubercles were found, were healthy in ten; and of the eight cases in which there was disease of the lungs, but no pneumonia, bronchitis was found in four; œdema of the inferior posterior part of both lungs in one; vomicæ from tubercles in another; and of the remaining two, the lungs were emphysematous in one case; and gorged with fluid blood, the patient only living six hours, in the other.

Of the twenty-three instances in which pneumonia was found, that disease had advanced to hepatization in eleven cases; the remaining twelve being in a state of congestive pneumonia in the first stage of the disease.

That the depressing circumstances which attend confinement in a hospital, together with the recumbent position, have some effect in predisposing to this disease, is shown by the fact, that of the 18 cases in which no pneumonia was found, 11 died before the 3d day after admission, viz. 4 on the 1st day, 2 on the 2d day, and 5 on the 3d day. Of the remaining 7, 1 died on the 5th day, another on the 14th, and 4 at periods varying from one month to two months and a half. Of these last 4, one died of phthisis after amputation of the leg, and two of the others were not confined to a recumbent position until a very short time before death; one, in fact, with sloughing ulcer of the neck, and sloughing ulcer over the trochanter, died in her chair.

On the other hand, of the 23 cases in which pneumonia was found, only one died before the 3d day, and that was an old bed-ridden woman, moribund on admission; 4 died on the 4th day, 2 on the 5th day, 6 between the 8th and 14th days, and 9 between the 16th day and 6th week. In all the cases in which the congestive pneumonia was found, the patient was, from the nature of his injury or disease, required to be kept in the recumbent position; and this, no doubt, together with other causes already mentioned, must have disposed him, Mr. E. thinks, to the occurrence of the disease, by giving rise to congestion of the lungs.

"Inflammation of the lungs, occurring in a person already suffering from a severe injury or a capital operation, is of course a complication greatly to be dreaded, and one which, it has been shown, is much more frequent than is usually believed. It is a complication against which it is necessary to guard as strictly as possible, both on account of it being of a very dangerous nature, and of it assuming very frequently a latent character; that is to say, the rational symptoms are in a great measure, or altogether wanting, and the presence of the disease can only be ascertained with certainty by a carefully conducted physical examination of the chest, which, as it is the posterior part of the lung that is almost constantly affected, it is extremely difficult to institute in the great majority of surgical cases; as it must be obvious to every one that it would be extremely injurious to place a patient suffering from a severe injury, or one who has lately undergone a capital operation, in such a position as would enable us to examine the posterior part of his chest with care. When this can be done, however, we find the same physical signs that occur in typhoid pneumonia, namely, dulness on percussion, with sibilous or bronchial respiration. The crepitation is not so well marked in this as it is in the more active forms of the disease. Sometimes it is entirely absent, and when present it only exists for a short time, and is, as Dr. Hudson observes to be the case in typhoid pneumonia, quickly lost by the accumulation of blood in the surrounding vessels compressing the air cells. As the latency of this disease is usually increased by the low condition of the patient, or by the existence of some severe injury which may chiefly attract the surgeon's attention, it behoves him to watch with the utmost care any appearance, however slight, of the supervention of a chest affection. He must not wait for the marked symptoms of active acute pneumonia to show themselves; but if the respiration be at all hurried and short, if there be any dyspnœa, lividity of the lips, or occasional slight cough, although there be no expectoration, no pain, and little or no pyrexia, he should immediately be on his guard, and, if possible, examine the chest with his ear, to ascertain if there be any of the well-marked and easily recognized signs of pneumonia present; and, if so, have recourse to as active a mode of treatment as the circumstances of the case will warrant.

"The knowledge of this tendency in severe injuries and operations to give rise to pneumonia, should always make us cautious in using the knife whilst there is any disposition in the patient to disease of the lungs, and should teach us the necessity, after operating, of guarding most carefully against those circumstances which are, in health even, exciting causes of inflammation of these organs, and which will act with increased vigour on a constitution already lowered by irritation. On this account it would be prudent to defer operations during very severe weather, or during the prevalence of an epidemic pneumonia."

33. *Operation for the cure of Stammering.*—The greatest novelties in surgery, which the Foreign Journals for the last three months present us, are the operations for the cure of stammering. Of these we shall give a full account, not that we believe that they will accomplish all that is claimed for them, but in the performance of our duty to keep our readers informed of what is doing.

Operation of Dieffenbach.—"The idea lately suggested itself to me," says the celebrated Berlin Professor, "that an incision carried completely through the root of the tongue might *possibly* be useful," in relieving stuttering which had resisted other means of cure, "by producing an alteration in the condition of the nervous influences, allaying spasm of the chordee vocales, &c.," and on this slender *possibility*, based on a most vague notion, it is not worthy of being termed a theory, he proceeded at once boldly to divide completely the root of the tongue.

Three modes of operating are described by Dieffenbach as tried by him to accomplish this object. "1st. The transverse horizontal division of the root of the tongue. 2d. The subcutaneous transverse division, in which the mucous covering of the tongue is left inviolate. 3d. The horizontal division, with excision of a wedge-shaped portion."

The first seems to have "*failed*," the second only "*ameliorated*" a high degree of stuttering, but the third we are told was attended with "brilliant success."

"The first operation I performed," says Prof. D., "on the 7th Jan., 1841. I chose for this case the method by which a wedge-shaped portion is removed from the posterior part of the tongue; for, as I have remarked, I felt more confidence in this than in the other methods.

"Frederick Doenau, a highly intelligent and talented boy of thirteen years of age, had stuttered from his earliest childhood, and to so painful an extent, that the defect was thought to be quite incurable. It varied, however, much in degree: when at the worst, he was unable even to produce a sound. He stuttered in Latin and French, as well as in his own language—sometimes on one set of words, and sometimes on others. The pronunciation of the sibilant letters (s, z, ss,) and of the palatals hard (g, k, ch, and x,) was attended with particular difficulty; and he made no distinction between the hard sounds, p, t, k, and the soft ones, b, d g, (German). He repeated the same letter often four times running; and when he whispered, he stuttered as much as when he spoke loud or shouted; often he could either not speak at all, or produced only half articulate sounds. The presence of a stranger invariably affected him in a manner most painful to behold. His face became distorted; the alæ of the nose worked convulsively; his lips moved quiveringly up and down; his eyelids were expanded into a wild and eager stare; the tongue was now stiff, now played convulsively within the mouth; and the muscles of the throat, larynx, and trachea were sympathetically affected. Thus, after terrible efforts, the boy gave utterance to a mangled and imperfect word;—now for a time was his speech free, and words chased one another with incredible velocity, till confusion ensued amidst the thronging sounds; and the same painful scene was thus again and again renewed. The peculiar physical horror which constitutes a stutterer, and which is excited by the effort to speak, is very similar to that which gives rise to the excitement and spasm of the hydrophobic patient at the sight of water. This internal movement might, on that account, be called phonophobia.

"The boy's mother caught eagerly at my offer to make an effort to cure him; accordingly, with the assistance of Drs. Holthoff and Hildebrandt, the operation was performed as follows: The boy sat with his head leaned against the breast of an assistant; the tongue being protruded as far as possible, was grasped on its anterior half with the forceps of Müzeux thus compressed laterally, and drawn forward by one assistant. The gentleman against whose breast the boy's head rested, retracted the angles of the mouth with a pair of blunt hooks. Grasping now the tongue as near to its root as possible, between the thumb and forefinger of the left hand, I passed the bistoury through it, and divided it completely from below upwards; a strong ligature passed through the posterior edge of the wound, served to fix it temporarily, and prevent too great a strain upon the slender band which alone connected the mass of the tongue to it; the anterior lip of the incision was now grasped, and laterally compressed between the modified hare-lip forceps, and a wedge-shaped slice excised out of the whole thickness of the tongue. It will be found more convenient to make this second incision from above downward, and with a small straight knife. The posterior edge of the wound was now, by means of the before-mentioned ligature, and a sharp double hook, drawn so far forwards that the needles with the ligatures could be conveniently passed through it; six strong sutures served to bring the edges of the wound together, and to restrain the hæmorrhage. To effect the latter object, they must include the whole depth of the wound within their loop. That the hæmorrhage was considerable, may be imagined from the nature of the operation, which should not be attempted by all persons indiscriminately. As soon as the boy's mouth was washed out, I desired him to pronounce some of those words which he had before found especially difficult; he did so without stuttering or hesitation. The distortion of the face, however, continued; the patient was put to bed, and a cooling plan of treatment ordered. With the exception of a slight sympathetic febrile disturbance, the swelling of the tongue, that one might anticipate, and the consequent impeded deglutition, nothing remains to be noticed,

so far as regards his recovery from the operation itself. His features, and his mouth especially, were still much distorted when he spoke, but the stutter had entirely ceased. On the fifth day I removed three of the sutures; during the next twenty-four hours the swelling of the tongue had visibly decreased, and I then removed the three remaining sutures. On the seventh day the wound was completely healed, the back part of the tongue alone was very inconsiderably swelled, and the boy quite re-established. At this present time, not the slightest trace of stuttering remains, not the slightest vibration of the muscles of the face, not the most inconsiderable play of the lips. His speech is throughout clear, well-toned, even, and flowing. Neither inward emotions nor unexpected external impressions, produce the slightest hesitation; he can speak, read, and entertain himself indifferently with friends or strangers.

"The total number of stutterers that I have relieved up to this time is sixteen, and those who are as yet under treatment appear to promise equally favourable results."*

The inventor of this operation thus characterises it: "It can never be performed by one who has not the temperament of an operator: the hæmorrhage must hold all others at a respectable distance. The extent and importance of the operation, the possible danger to life, or loss of the tongue either through the want of skill in the assistants, who may tear it off when so nearly separated, or through mortification or ulceration of its connecting isthmus. These are contingencies rationally to be feared, and which must be carefully weighed beforehand." We commend this to the consideration not only of the surgeon, but most earnestly also to the unfortunate subjects of the operation.

Notwithstanding the eminently dangerous nature of this operation,† several of the most distinguished surgeons of Paris have hastened to execute it, and seem now to be contending who shall perform it most frequently and boast most loudly of their success. Amussat, Velpeau, Roux, Bonnet, have all entertained the French Academy with accounts of their wonderful success, and some even contest with M. Dieffenbach the merit of having "first had an idea of this operation."

At the meeting of the Academy of Surgeons on the 8th of March, Mr. Amussat stated that he had operated upon 21 stammerers.‡

M. Bonnet, of Lyons, has also tried the effects of this operation on five patients; the three first were relieved; the two last were *immediately* and *perfectly* cured, although affected with stammering in the very highest degree. M. Bonnet divides the genio-glossi muscles by a subcutaneous incision beneath the skin, and not by cutting the mucous membrane near the frænum linguæ, as practised by M. Amussat, Mr. Lucas and other surgeons. A very small incision is made on the median line, about an inch or an inch and a half below the chin; through this is introduced a blunt-pointed tenotome, which is directed from below upwards, and a little forwards. The blade is directed towards the jaw-bone, and when the point has reached the mucous lining of the mouth, (a fact easily determined by the finger introduced into the mouth,) the process from which the muscles arise is felt for; the blade of the instrument is now carried to the right and left, against the upper part of the inner surface of the jaw, and in this way the origins of the genio-glossi muscles are divided, while the genio-hyoid muscles are avoided. By this method we divide the aponeurotic attachments of the muscles; avoid the cellular layer which is close to them, together with the sub-

* Memoir of the Radical cure of Stuttering by a surgical operation. By J. F. Dieffenbach. Translated by Joseph Travers. London, 1841.

† It is said to have been fatal in one of Dieffenbach's cases, that of a young man who was dismissed seemingly cured. Owing to the irritation caused by the cicatrix, this patient commenced picking his tongue; hæmorrhage came on, which proved so alarming that Dieffenbach was sent for, but so much blood had been lost that the man sank. —*Provincial Med. and Surg. Jour.*, May 15th, 1841.

‡ Gazette Méd de Paris, March 13, 1841. In a more recent communication he stated that he has operated upon 33 patients.

lingual arteries, and the wound made is so insignificant, that the patient can speak and walk about his business on the following day. The first patient who was completely cured, 14 years of age, was afflicted with a very high degree of impediment. While M. Bonnet was withdrawing the instrument, he exclaimed, "Thank you, sir," with the utmost precision, and on the following day presented no trace whatever of the defect. In another case the results were equally fortunate, but in the three first patients operated on, the same success did not attend division of the genio-glossi muscles; the impediment of speech was more or less relieved, but not completely cured. M. Bonnet inquires whence this difference of result, but is unable to account for it.*

Dr. Phillips, of Liege, has also performed the operation, and he says with success.†

Mr. Lucas's operation.—Mr. Lucas, of London, having learned from a newspaper article that Professor Dieffenbach had cured stammering by dividing some of the muscles of the tongue, immediately hastened to put into practice "some views, which the newspaper account alluded to," led him to adopt for the cure of stammering. This operation had for its object the division and partly removal of those muscles which oppose the free elevation of the tip of the tongue to the superior alveolar arches. He has performed it, he states, in 18 cases, of which 4 were not in any way benefited, 3 were cured, and 5 considerably relieved.

The operation which Mr. Lucas performs, is as follows:—

"The patient being seated before a strong light, and his head resting against the breast of an assistant, I make him open his mouth fully, and elevate his tongue, which movement puts the frænum linguæ upon the stretch. In most instances the patient can keep his tongue for a sufficient time in this position to enable the operator to accomplish the object intended; but if he should not be able to do so—if the tongue be unsteady, as it sometimes is—the assistant who supports the head can readily keep the organ elevated and steady with his finger, having first covered them with a napkin. I next seize the frænum with a common dissecting forceps, held in my left hand, and with a pair of sharp-pointed scissors I divide this membrane across, and also the mucous membrane laterally and vertically. After this is accomplished, the borders of the genio-hyoglossi muscles, often without any more dissecting, are brought into view; but in other instances it has occurred that a fascia and cellular tissue intervened between them and the frænum, so as to render this part of the operation more difficult, not only on account of the other parts which require to be divided, but also on account of the depth of the muscles from the surface. At this part of the operation there is often hemorrhage from some of the sub-lingual veins being divided, but never more than to the amount of a small spoonful, and the flow of saliva also from the Whartonian ducts is considerable. At other times there have not been more than a few drops of blood. If the hemorrhage should obscure the further steps of the operation, the patient should wash his mouth with cold water two or three times, when it soon ceases. When the free borders of the muscles are brought into view, I seize them with the same forceps that was used for grasping the frænum, and I cut a triangular portion out of each with the sharp-pointed scissors. The reason I prefer the latter to be sharp-pointed is, that I am enabled to see better what I am about. The quantity of muscle I remove depends upon circumstances. After having removed the quantity apparently necessary for the free and perfect elevation of the tongue, I place the point of my forefinger in the wound, and if any parts become tense when the tongue is being raised, I free the organ from their influence. The proximity of the ranine arteries, the large sublingual veins, and considerable branches of the sublingual and gustatory nerves, makes it necessary to observe caution in the excision of the muscles. The only evidence of injury done to any of these parts in the operations I have performed was a tingling pain shoot-

* Provincial Medical and Surgical Journal, April 10, 1841.
† Du Bégaiement, &c. Paris, 1841.

ing from the seat of the operation to the base of one, and sometimes to those of both. This sensation, however, subsided in a few minutes. In a few days the wound is completely healed, and in general no trace of the frænum linguæ is left."*

Mr. Yearsley's operation.—Whilst Dieffenbach was devising a surgical means for the cure of stammering, Mr. Yearsley of London and Mr. Braid of Manchester were prosecuting the same subject. Mr. Yearsley's operation is, however, a very different one from that of the Berlin Professor, and founded on different views as to the cause of the defect.

"In the practice of my department of the profession, says Mr. Y., it has been usual with me to explore the condition of the mouth and pharynx in every case of deafness committed to my care. I have thus discovered that a large number of patients suffering from deafness are affected with enlargement of the tonsils and uvula, and an irritable condition of their investing membrane and the pharynx generally. It has been my constant practice, when I have considered these states at all contributing to the imperfection in hearing, to remove either the tonsils or the uvula, or portions of both, according to the nature of the case, with the most marked and immediate benefit, as far as the hearing may have been concerned. In December last it occurred to me to operate in this manner on two patients. They were, at the time of treatment, so deaf, that I did not then address my questions particularly to them, but to their parents, so that I was unaware of any impediment to speech in these instances. Some time after, as the cure of deafness advanced, I learned from the parents that both children had been stammerers from infancy, and, as much to my surprise as gratification, that the cure of stammering had ensued immediately on the excision of the tonsils. At the time at which I write, the subject of both these cases remain free from any impediment, though their stammering previously to the operation is represented to me as having been very decided. I had before this remarked that persons with enlarged tonsils were affected with thick and imperfect speech, for which I had often, during the last year, practised excision with the happiest effect, in restoring the voice to its original clearness. Since the cases above mentioned, I have operated on upwards of forty persons, all of whom have immediately felt themselves relieved of their impediment. Many have seemed wild with joy, or have shed tears of pleasure, at the instantaneous restoration they have enjoyed. After the operation, the difficulty of speech which remains is referred by the patient to the lips; they express themselves entirely free from the original difficulty. Something must be allowed for the long misuse of the organ of voice, and the existence of habit, in rendering the voice less perfect than in the natural state. In fact, after their relief, patients have yet to learn the proper use of the vocal apparatus.

"I have performed the operation by means of a scalpel, tenaculum, and scissors, without any serious hæmorrhage, and with a small amount of pain, which has appeared somewhat greater in the case of the uvula than the tonsils.

"In reflecting upon the subject, the explanation I have at present to offer is, that to produce stammering, the dorsum linguæ, the palatine arches, velum palati, and uvula, approximate together so completely, and perhaps irregularly, as to leave no room for the expulsion of air from the larynx. In a person who stammers, no air issues from the mouth during the abortive effort to speak; but it does so as soon as the patient is relieved from this state, so as to produce sound. The most violent contractions of the abdominal muscles can be seen attempting to force up the diaphragm and expel the air; sometimes all the respiratory muscles, and even those of the body generally, are thrown into violent spasmodic action, as the individual grasps some near object to assist the expulsive effort. In some cases, when there is nothing abnormal about the tonsils or uvula, I find a great congenital narrowing of the entrance from the mouth to the pharynx."†

Mr. Braid's operation.—Mr. Braid's notion as to the cause of stammering, and

* Provincial Medical and Surgical Journal, April 3, 1841.
† London Medical Gazette, March 12, 1841.

his mode of cure are very nearly the same as that of Mr. Yearsley. "My attention was first drawn to this subject particularly," Mr. Braid observes, "from several patients, who were severely affected with this malady, applying to me. Up to that time I had considered it to be a nervous affection, or an acquired habit, to be overcome by constitutional treatment, and particular attention in the use of the vocal organs. Amongst the number of patients who daily consulted me, I had found so many other complaints, generally considered incurable, to be amenable to surgical treatment, that the idea occurred to me that stammering might possibly arise from some physical defect, and be capable of being relieved by surgical operation; and I therefore directed my attention to the examination of these patients with this view. I very soon discovered that stammering was associated with a rigid state of the tongue in the majority of instances, which would naturally prevent the free and prompt action of the epiglottis required for permitting or restaining the passage of air through the glottis in the quantity necessary for a free and correct enunciation. The free division of the frænum appeared to me to be the most easy and natural mode of relieving this, and I operated accordingly. The effect of the operation was the instant removal of the complaint, and which, being so evident to a number of other patients who were present at the time, their report of this success induced others to apply to me, so that I have had two or three patients in succession undergoing the operation; and, of the scores of cases I have had, I think there have not been more than one or two which have not been benefited, whilst most have been entirely cured. Although division of the frænum will succeed in many cases, it will not in all, but may be rendered efficient in such cases by a farther division at the symphysis of the lower jaw. Other cases I found to depend on an obstruction to the free motion of the tongue, and especially to its permitting the free opening of the glottis; not from its being bridled down, but to its being pressed down by enlargement of the tonsils—a disease which I have known go so far as to cause not only stammering, but inability to articulate a single word distinctly, and at the same time producing deafness by pressing upon the eustachian tubes. All these defects I have found instantly to be removed by excision of the enlarged tonsil or tonsils. I had a most interesting case of this kind, which I operated upon on the 7th of October last, which remains perfectly well to this time. With the instrument I use for the purpose this can be done in patients of any age in a few seconds, with perfect safety and very little pain. Any other tumour, in such a situation, might produce similar effects, and therefore ought to be removed with the same view. It is quite delightful to witness the instant relief afforded by such operations. Patients who were not able to utter a single sentence distinctly, enabled to speak correctly, and with ease, instantaneously; and others, who were almost entirely deaf, instantly restored to the possession of the valuable sense of hearing. I was compelled to perform these operations sometimes surrounded by twenty or thirty patients, so that the accuracy of what is here stated is well known to hundreds who have witnessed them.

"I consider it an important fact to state that, in some cases from a distance, in which I had not an opportunity of watching the progress of the cure, and preventing the divided parts cicatrizing in their former contracted state, the stammering, which was completely removed by the operation, was about as bad as at first when the parts were so closed; but a redivision of these parts, and restoration of freedom to the tongue, had again the effect of immediately removing the malady; and by attention to guard against its closing in the contracted state, the cure has been permanent for the last five months, and therefore, it may be presumed, will now remain so for life. Stammering and coughing are occasionally associated with a relaxed or hypertrophied uvula, a portion of which I always excise in such cases. It may also arise from a relaxed state of the fauces, for which astrigent and stimulant gargles, blisters, and constitutional treatment, may be required. When it is a purely nervous affection I know nothing new to recommend in such cases."*

* London Medical Gazette, March 19, 1841.

For the division of the frænum lingua, Mr. B. uses a pair of sharp-pointed knife edged scissors; and for the excision of the tonsils, Dr. Fahnestock's instrument.* Mr. B. it is right to say, claims the priority of this operation, he having first performed it in September last, whilst Mr. Yearsley's first operation was in December, and Dieffenbach's on the 7th January.

It is difficult to explain how the division of the frænum or the removal of a portion of the tonsils or uvula can cure stammering, and this difficulty becomes greater when we remember that enlargement of the tonsils, enlongation of the uvula and shortness of the frænum linguæ, often exist without the individuals thus affected, stammering. Nevertheless, we have the testimony of Dr. Marshall Hall, Mr. Mabyn, Mr. Downing and others, as to the success of some of Mr. Yearsley's operations.† Sufficient time has not yet elapsed however to determine whether the cures will be permanent, and we suspect, in the end, it will be found that the success is more seeming than real. It is manifest, moreover, that the operation of Mr. Dieffenbach and that of Mr. Yearsley cannot be applicable to the same description of cases, and yet neither of these operators attempt to point out the particular kinds of stammering to which their respective operations are applicable. Such being the state of the case, the performance of any of those operations is entirely empirical‡ and unworthy of a scientific surgeon, and that of M. Dieffenbach is so eminently dangerous, that we do not know whether an operator should not, in case of the death of his patient, be held responsible. These expressions may be considered strong, but the direction which surgery seems now taking, appears to call for it. Surgery is fast degenerating into the art of tendon cutting and removing deformities, and the highest ambition of some prominent surgeons seems to be, to exhibit to admiring crowds, individuals whose personal appearance has been embellished by their skill. All this, like the arts of inserting artificial teeth or making wooden legs, may be, and indeed are useful in their way, but Surgery has higher and nobler objects, and to these we wish to recall the attention of surgeons. We desire to have to record such triumphs of intellect and skill as would be the invention and performance of new operations for the removal of diseases now irremediable, and, above all, the devising of methods of cure for those numerous surgical affections which, to this day, are refractory to all treatment save those dreadful resources of surgery, *cautery* or the *knife*.

As regards the operations for stammering, the results thus far obtained are sufficiently striking to induce inquiries into the cause, or rather causes, for we are persuaded that they are numerous, of this defect. The pathology of the affection once fully elucidated, we may then proceed on safe grounds to adopt appropriate measures for the cure of its various forms.

OPTHALMOLOGY.

34. *Cure of Myopia by division of the muscles of the Eye.*—M. Jules Guerin, in a communication addressed to the French Academy, states that there are two forms of myopia, a mechanical and an optical. "The mechanical form depends on primitive shortness, or retraction of some two, three, or four of the recti muscles together, and in an equal degree. It often accompanies strabismus, and then depends on the fact, that only one of the muscles is affected, or some one

* London Medical Gazette, April 9, 1841.

† See Proceedings of Westminster Medical Society, in *Lancet*, March 27, 1841.

‡ The empirical character of the operation is shown by the result of Mr. Yearsley's cases. Mr. Alcock stated to the Westminster Medical Society, that he had seen many operations performed by Mr. Y., and that "in some of these no good result followed, but in others the operation was attended by marvellous improvement; in others there was some doubt as to whether any improvement had taken place; in others again, relief, but not a cure, followed."

in a greater degree than the rest. The characters of this species of myopia are furnished by the form of the globe of the eye, and by its movements. The anterior of the globe is conical, and the sides are flattened in the direction of the shortened muscle; the movements of both eyes are limited according to the number of muscles contracted, and their degree of shortening.

"The treatment of mechanical myopia consists in dividing the shortened muscles. M. Guérin has performed this operation on several occasions with success, both in cases of simple myopia, and in those complicated with strabismus. One of the most remarkable was a man, fifty years of age, affected with slight divergent strabismus, who had been dismissed from the army thirty years before, on account of his shortness of sight. He could read print with glasses No. 3; on the third day after the operation he could read newspaper print without any glasses at all. M. Guérin also mentions the case of a young man, whose mother and grandmother were short-sighted; before the operation he was unable to distinguish large characters at more than four inches and a half; but with spectacles No. 7 he read them freely. Three days after the division of the internal and external recti muscles in both eyes, he began to read without glasses the same print, and could distinguish objects at a distance of ten yards, which before he could not even see. On the ninth day after the operation he could read common print at a distance of eighteen inches, and large Roman capitals at a distance of three feet, but they seem to him smaller than before the operation. He can distinguish large objects clearly enough at a distance of a hundred yards, while the same objects became invisible with glasses No. 7 or 13.

"A knowledge of the immediate cause of mechanical myopia tends to prove that the eye adapts itself for the vision of close or distant objects, by contraction of the recti muscles; besides, this is proved by direct experiment. M. Guérin has submitted to the inspection of M. Arago, a young man, 28 years of age, in whom the advance and retreat of the globe of the eye, corresponding to short and long vision, were quite evident without the assistance of any instrument. Finally, from the preceding facts M. Guérin concludes that the lens does not undergo any change of form in long or short vision, as many writers assert, but merely changes its relations of distance to the retina and transparent cornea."

"M. Bonnet of Lyons has also conceived and executed the idea of treating myopia by division of one of the muscles of the eye. His first operation was performed on the 14th of February 1841. M. Bonnet, however, attributes the defect of vision to contraction of the oblique muscles, and not of the recti, as M. Guérin does. In one case, that a medical student, 22 years of age, M. Bonnet divided both inferior oblique muscles with the best effects; in two other cases of simple myopia, which had existed from infancy, the improvement was great, but a complete cure did not ensue. Finally, in two cases where myopia was complicated with some amaurotic symptoms, such as 'sparks' in the eyes, fixed look, &c., no benefit whatever was obtained; one case, indeed, seemed to have been much relieved during the two days, but afterwards relapsed to its former state."

[There must be, we conceive, some mistake in regard to the alleged result of the above operations of M. Guérin and Bonnet's, since such a result would be in opposition to theory and at least one carefully observed fact. If the division of the recti muscles alters the adjustment of the eye, the effect of such division would be to render the eye more myopic. For undue contraction of the recti muscles can influence the adjustment of the eye solely by flattening the globe, that is lessening its antero-posterior diameter, the effect of which would be to cause more or less presbyopia, or farsightedness. The division of these muscles, then, by removing this constriction, would lengthen the antero-posterior diameter of the globe, and of course produce more or less myopia or nearsightedness. Such a result is in exact accordance with what was observed by the editor of this Journal, in a case in which he divided the internal rectus muscle in a patient for the cure of squint. This gentleman, who before the operation was remarkably presbyopic, had this considerably diminished, i. e., there resulted an approach to presbyopia.

The results, as stated, of MM. Guérin and Bonnet's operations are irreconcilable with the above fact, and with the well determined theory of vision at different distances. Had the operation been proposed for the cure of the opposite condition to myopia, i. e. presbyopia, it would have been in accordance with theory, and a favourable result would have been better entitled to credence.

—

35. *Partial Amaurosis cured by Division of the Recti Muscles.*—Mr. James J. Adams, of London, records in the *Provincial Medical and Surgical Journal*, (April 3, 1841,) the following case of amaurosis, in which a cure was effected by division of the external and internal recti muscles.

"Sarah Hicks, ætat. 22, an intelligent woman of delicate appearance, has light brown hair, and dark irides.—Catamenia regular and natural.

"Position of both eyes natural, and in appearance healthy, but the right eye is slightly smaller than the left.

"Pupils not more than ordinarily dilated; irides act freely and in union, when equally and simultaneously exposed to the light—but if the light be admitted to the eyes separately, the right iris, which is slightly irregular, will contract more slowly and less completely than the left.

"She states that when both her eyes are open she cannot work at her needle, or read, or view small objects for more than a few minutes, without much dimness and confusion of sight being produced, which compel her to rest her eyes. If the left eye alone be used, she does not suffer any inconvenience from the sight for several hours; but if the right be used by itself, dimness or mistiness, which is constant, exists to such a degree that she cannot see, in a strange place, to guide herself about. By the right eye she can distinguish faintly the bars of a window, but not the tassel cord which is attached to the blind; also, she can distinguish between the print and margin of a page, though she cannot read the largest printed letter. The mist before the right eye is *least* in a direction towards the *right inner canthus*.

"She is very subject to giddiness, and to pain over the right brow and temple; has experienced severe pain over the right side of the face and nose. The pains commence if she begin to read, work, or bustle about; and are generally worse in the morning, or at night, when candles are present. At some times, the dimness of sight and pains have been so slight that she has been enabled to work, during several hours, without inconvenience; at other times she has not been able to do a quarter of an hour's work, or even to follow her occupation as servant; for, if she attempted to exert herself, or to move quickly from place to place, giddiness, with pains about the head and eye would commence, which would become so intensely severe that she would almost be deprived of sight; indeed, on three different occasions she has found herself perfectly blind with both eyes for several hours; the sight afterwards gradually returned to its previous condition.

"The history of S. H.'s complaint is as follows; about two years since, while at needlework, she felt suddenly a mist or fog come over both her eyes, which, by closing the right eyelid, was removed; also, she felt, at the same time, a curious fluttering sensation in the right eye, which, to use her own words, resembled the jumping of a fly." The mistiness and sensation continued, and became so troublesome, that she was not only obliged to abandon all attempts at needlework, but to leave, for several days, her situation as servant; after which she returned to her place, but at the end of one month, again was compelled to quit her mistress for a longer period, on account of the recurrence of the giddiness, the headache, and confusion of vision. She then placed herself under medical treatment, to which during the last six months she attended, without any apparent benefit; her surgeon then advised her to quit London, and try the effect of her native air. While she continued in the country, she remained afflicted by so much pain and imperfection of vision, that she was not able to earn her living, or to do a day's work. Moreover, several medical men had seen her, and gave her so little hope of a recovery, that she had no prospect of again being able to support herself.

"Her medical treatment has been bloodletting, blistering, and probably mercury; on one occasion, she describes herself to have perceived with the right eye 'sparks and flashes of fire.'

"*March 1st*, 1841.—I divided the right internal rectus muscle, having previously separated, as completely as possible, all its cellular attachments to the globe; the immediate effects of which were, a slight abduction of the right eye beyond its natural central position, and a slight but decided improvement in the sight, the fog or mist being *less dense* in the direction of the *right external rectus*.

"*4th*. Sight very much improved; fog much lighter than it was soon after the operation; sees most distinctly towards the right external canthus; all objects appear clearer; can distinguish the tassel cord. Read, in the presence of myself and others, several sentences in large print; sees all objects double when both eyes are open.

"S. H. states that she read, on the day after the operation, the large printed title of a child's book by means of the right eye, the left being closed. Position of the left eye natural; right very much abducted.

"*12th*. Sight considerably improved since the last report. Read, in the presence of several professional friends, the large print of a public journal. Position of the right eye much altered, and is now nearly natural; the patient says, that three days since it came straight suddenly.

"*15th*. Sight still more improved. Read, in the presence of many gentlemen, a moderate sized print. Still sees double.

"The pains about the eye and brow have been, since the operation, much less; but she has had two or three attacks of general headache.

"I now proceeded to divide the right external rectus muscle, carefully separating its cellular connections.

"The immediate effects of this second operation were to render the position of the right eye perfectly central and corresponding with the left, to remove the double vision, and to cause the sight to become perfect, in a direction towards the right inner canthus, as it had been, previous to operation, towards the right external canthus.

"*20th*. Sight more extensive since the second operation; can see with the right eye as well towards the left hand as towards the right; can see to read the ordinary newspaper print.

"*24th*. Sight in the right eye slightly improved since last report; cannot yet read with it very small print; with *both* eyes open can read the smallest print or do fine needlework without pain, confusion of vision, or in fact any inconvenience."—*Provincial Med. and Surg. Journal*, April 3, 1841.

Mr. Adams claims to have been the first to have cured amaurosis by operation performed expressly for its cure. He does not, however, attempt to point out the modus operandi of the operation, or to point out the symptoms by which the cases suitable for it may be distinguished. Neither does he inform us whether any change was effected by the operation, in the adjustment of the eye.

—

36. *Physiology of the Iris.*—Mr. W. P. Brodribb relates, in the *London Medical Gazette* for May last, an interesting case illustrative of the physiology of the iris. The patient, a young man 30 years of age, is completely *amaurotic* in his *right eye*, so as not to be able to distinguish light from darkness; the pupil of the eye is, however, but slightly dilated, and the motions of the iris are not much impaired.

On the other hand, vision in the *left eye is uninjured*, whilst the pupil is widely dilated and the iris perfectly immovable. When light is admitted into this eye, its iris remaining fixed, the iris of the amaurotic one contracts.

The case is one of disease of the brain, and the patient labours under complete ptosis of the left eye, with paralysis of all the parts supplied by the third pair of nerves of this side.

—

37. *Influence of Supra-orbital wounds in the production of amaurosis.*—Dr. F.

De Walther, after a full and impartial review of the recorded cases of amaurosis, said to be produced in consequence of wounds over the seat of the supra-orbital nerve, arrives at the conclusion, that injury of this nerve has nothing to do with the production of this affection, since the nerve is often divided without giving rise to amaurosis, and amaurosis has been produced when the nerve is left quite entire and unaltered. M. Walther endeavours to prove that the supra-orbital nerve has no direct communication with the optic nerve or the retina, and that its connection with the ciliary nerves is very indirect, being by means of the nasal nerve. Amaurosis, which occurs after a wound over the supra-orbital region, he therefore attributes either to some direct violence having been sustained by the organs within the orbit, as by concussion, or to an affection of the brain; he, however, admits that amaurosis may also be produced in consequence of inflammatory action being propagated from the supra-orbital wound to the retina or optic nerve, through means of the continuity of the tissues.—*Edin. Med. and Surg. Journal, from Jour. de Chirurgie und Augenheilkunde*, October 1840.

—

38. *On the action of the Oblique Muscles of the Eye.*—By A. W. Volkman.—In an admirable but little known treatise by Hueck of Dorpat, (on the rotation of the eye on its axis, Dorpat, 1838,) it is shown that the office of the oblique muscles is to turn the eye upon its axis, so as to render it possible for the rays of light from any object to fall on identical spots on the retina, even when the head is inclined downwards; a condition on which, as is well known, singleness of vision depends. The observations of Volkman fully confirm this view. In the dog, calf, and other animals experimented on, the axis round which the eye rotates is the visual axis itself, or at least its position is so little different from that of the latter, that when the oblique muscles act alone no motion of the pupil is discernible. In man a rotatory motion must also be produced by the action of the oblique; for since the muscles wind on the eyeball in the form of a semicircle, rotation is unavoidable. But in man the axis of this rotation is not coincident with the axis of vision. While in the calf the direction in which the oblique muscles act intersects the visual axis at a right angle—in man the intersection is at an acute angle. The inferior oblique arising from the lacrymal bone goes outwards and backwards, comes in contact with the eyeball at a point directly beneath the axis of rotation, and is then prolonged backwards and outwards, and after describing a semicircle, is attached to the outer and posterior part of the eyeball. The rotation which it produces will therefore have an axis, which may be considered as passing from the outermost part of the iris to the point of insertion of the optic nerve; in short, an axis which, instead of coinciding with the visual axis, cuts it, and passes across it from the front and externally backwards and inwards. The necessary consequence is that when the inferior oblique acts *alone*, the pupil describes a portion of an arc of a circle; and, supposing that the view just advanced is correct, it must turn round the outermost point of the iris (which remains unmoved,) and be thus carried in a curved line upwards and outwards.

Albinus held this opinion respecting the action of the inferior oblique, but Bell and, with him, many modern authors have thought differently. The inferior oblique they think must move the eyeball so as to carry the pupil upwards and inwards, in the direction in which it is carried in wincing, and in which it is fixed during sleep. These motions, when automatic, are ascribed by Bell to the inferior oblique, and not to the combined actions of the superior and internal recti, which preside over voluntary motions exclusively. But the proofs for this opinion are insufficient. Bell divided the superior rectus in a rabbit, and found that the pupil was still moved upwards when the eye was irritated; but this might have been affected by the upper fibres of the retractor bulbi, (as in cap. 6.) He divided also the oblique muscles in a monkey, and it remained capable of all the voluntary motions of the eye, but the pupil on that side on which the inferior oblique was divided was *scarcely distinctly* moved upwards in wincing. But a slight motion must require an organ for its performance not less than a

great one does; and Bell has therefore unintentionally proved that the motion of the pupil in wincing may depend on the recti. But, in fact, this motion is never produced by the inferior oblique; for, 1st, that muscle could only move the pupil upwards and *outwards;* 2d, its action must be connected with the axis-rotation of the eye of which no trace can be discerned in the act of wincing; 3d, the experiments already detailed prove that contractions of the inferior oblique are not connected with the twitching upwards of the pupil; 4th, that same twitching upwards continues after division of the inferior oblique. In short the position of the inferior oblique sufficiently indicates its action; it carries the pupil in the arc of a circle outwards and upwards.

In cases in which this rotation of the eye on its axis really takes places, it may be discerned in men as well as in animals, by a mode that Hueck pointed out. By fixing on a small vessel in the white of the eye, which (if possible) is directed transversely and horizontally across it, and then moving the head towards the shoulder, the vessel will be found not to alter its position; and it is therefore evident that the eye turns round in the direction opposite to that in which the head is inclined downwards.

The oblique muscles of the human eye, if they acted alone, would alter the position of the pupil and consequently the visual axis; but they do not act alone. The straight muscles determine the direction of the visual axis, and this being once fixed, the action of the oblique muscles can be no other than that of turning the eyeball round its unchanging axis.—*B. and F. Med. Rev.*, April 1841, from *Müller's Archiv.* 1840, p. 480.

DENTAL SURGERY.

39. *On the treatment of the milk teeth from their first appearance until they are shed.*—M. Delmond has published in a French Journal, *l'Esculape*, an interesting article on the diseases of the teeth during infancy. This physician inquires into the course to be observed in order to preserve the teeth, and into the influence of their extraction, when they are carious, on the development of the succeeding ones. According to him, gastro-intestinal affections react in a very unpleasant manner on infant as well as adult teeth; it is often difficult to remove the cause of destruction; but another source of evil is the abuse of sweetmeats, which, always containing a great amount of malic acid, excite a painful irritation, the precursor or companion of caries. When children experience this pain, care must be taken to rub the teeth for a few moments with a soft brush well charged with magnesia. The pain or irritation ceases at once, the malic acid combining with the magnesia.

When the tissue of the teeth, more advanced in its decomposition, has exposed the dental pulp, all proper means must be employed to stop the irritation, and then to plug the milk tooth in order if possible to await the development of its successor. M. Delmond, in these cases, has derived benefit from the following mixture: camphorated oil of sweet almonds, 2 ounces; Sydenham's laudanum, half an ounce; essence of mint, four to five drops. A little ball of cotton soaked in this is to be introduced into the carious cavity. A few drops of oil of sweet almonds or of lilies, with or without laudanum; gentle frictions behind the ears; a discharge kept up from that part by means of a dressing of epispastic ointment; small camphorated vesicatories to be applied in some cases, or indeed a few leeches behind the ear, or to the angles of the jaw, according to the indications, might have a good effect, and stop the pain by resolving the inflammation. Means must then be immediately adopted to prevent its return by plugging the tooth. But when these means fail, when the aveolo-dental membranes are affected with chronic inflammation, should more or less suppuration make its appearance around the neck of the teeth, they must, however disagreeable the necessity, be extracted.

It is not correct to say that the loss of the second teeth ought to be attributed to

the extraction of the milk teeth. This extraction, on the contrary, cannot harm the germs of the second teeth unless the operator by clumsiness fractures the alveolar process so much as to expose the germ of the tooth beneath. It is even possible for the completely carious milk tooth to be thrust out by the secondary tooth, which rises from its alveolus in the midst of the *debris* of the former without the latter experiencing the least alteration. But when caries has attacked the milk tooth at an early age, if its alveolar membranes are affected with chronic inflammation, if the pains are frequent and prolonged as well as the inflammation, the irritation may extend more deeply, and then the loss of the two teeth united is the consequence. This accident might be avoided either by plugging the milk tooth from the first, as we have shown; or by drawing it out after having ascertained that the progress of the caries could not be checked.

However, M. Delmond by no means decides without good reason upon extracting the milk teeth, above all the last molar, for towards the age of six or seven years when the first permanent molar appears, should it find no obstacle whatever to its development, it grows forwards, and the space which the second teeth should occupy is thus diminished.

In support of these remarks this physician cites three cases. The first is that of a child one of whose teeth was drawn with a thread. The pain had been severe and prolonged, the gums were swollen and pus had formed around the neck of the teeth. It was a first molar; it was extracted with the crown of the permanent tooth which still embraces it. Caries had already extended to this tooth, and it would have been impossible to save it. The second case cited by M. Delmond is that of his own child eight years of age, whose second upper molar was carious, but without causing pain. All at once this tooth was attacked with violent inflammation, and it had to be drawn. An abcess formed in the gum. As soon as the tooth was removed it discharged a great deal of pus; a small fistula established itself, and dried up only when a small fragment of alveolus came away. Then they plainly saw the crown of the permanent tooth yellow, roughened, and that it would have to be drawn. Since that time the first small molar has come out from its alveolus, but it is crookedly placed, it is painful, and will not last long.

Finally, the third case cited by M. Delmond is that of a young girl of seven years, who was in a much more painful condition. A molar had been carious; they did not like to draw it, and the caries advancing, an inflammatory swelling had become habitual on that side. When M. Delmond was consulted necrosis of the jaw bone existed to a considerable extent. This fragment of bone being removed, it was found to contain in its interior the crowns of the lateral incisor, the canine and the first small molar. These crowns were black and atrophied. A pretty large breach resulted from it, which, at the present time, causes a disagreeable deformity.

We have very rarely had occasion to entertain our readers with the therapeutics of the diseases of the teeth, because a very few works appear on this important branch of surgery, the writers of our day seeming to have entirely neglected a subject which, however, interests every practitioner in the highest degree.—*Journal de Med. et de Chirug. Prat.* June, 1840.

—

40. *On Plugging Teeth.*—M. O. Taveau, a distinguished Parisian Dentist, has published in *La Lancette Francaise*, the following interesting practical observations on this subject.

1. *The time for plugging.*—All authors who have written on this subject agree that we ought never to plug, first an aching tooth, next a tooth affected with sanious or humid caries. The first part of this maxim never to plug an aching tooth is true in most cases, but it is liable to some exceptions; for we meet for instance with teeth which only ache just because their interior is subjected to atmospheric vicissitudes that painfully affect it, and which cease to give pain the moment their cavity is protected by its occlusion from the action of heat and cold—I have actually under my eye a proof of this furnished by a physician, who has a second inferior large molar deeply excavated, and from

which he suffers only when he takes away from its cavity a plug of cotton with which he is obliged to fill it every day. Let this person present himself to a dentist after having removed the cotton from his tooth, and he will certainly complain of pain, which in some cases is very severe, but will this pain be a contra-indication to plugging, and even to a final plugging? Very certainly not, since this means alone can stop it.

In other circumstances, pain affecting a tooth more or less excavated by caries, may be seated not in the accidental cavity, but in the alveolar periosteum; we ascertain this by percussion which aggravates the pain, and by introducing into the caries a sound which produces no unpleasant sensation. This kind of pain, like the former, does not always contra-indicate of itself the plugging of the tooth. There is then nothing absolute in relation to pain taken as a measure of the proper time for plugging; equally is it more agreeable to what experience demonstrates to confine ourselves to saying: that if an aching tooth must not be plugged, it is especially one, the cavity of which is constantly painful, or where the pain is accompanied by inflammatory phenomena.

As to the counsel given in aphoristic form, not to plug a tooth affected with sanious or humid caries, it is entirely obligatory if we desire to comprehend by the word to plug the definite obturation of a carious tooth; but is less just if by this word we wish to forbid all introduction into the diseased tooth of a foreign body, capable of securing it provisionally from the action of air and food. In fact we have nearly always to commence with that, since substances capable of arresting suppuration of the dental pulpe, or decomposition of the enamel, ought to remain in contact with the diseased part a certain time, in a word the time necessary to the cicatrization, or if you will to the drying up of the caries. The rule in the case of sanious caries ought then, to express the rational indication suitably, to be given somewhat in these terms; secure provisionally the cavity of the caries against the contact of the air, and of foreign bodies, to facilitate its drying up, and then plug.

To fulfill the first indications by drying up the caries, I have long used with success and for want of a better, a sort of cement or paste, composed of sulphate of alumina and sulphuric ether; but I have been forced to acknowledge that the advantages of this substance, which hardens moreover promptly enough, were annulled by the species of astriction, which the alum inevitably creates on the neighbouring parts, and by the inconvenience resulting from disengagement of ether—I have made on this subject some new researches which have conducted me to the discovery of another substance, which not only has all the advantages of the preceding without its inconveniences, but which seems to me preferable on every account to the crowd of preparations which the industrious and speculative spirit of our age has brought to light, and extolled with emphasis as infallible remedies for the toothache. It is a solution of the resin of the *pistachia lentiscus* of the Isle of Chio, or simply of benzoin in alcohol at 42 degrees, and with which a little cotton is to be soaked and then introduced into the cavity of the caries, plugging it pretty strongly.

This preparation, which does not leave the penetrating odour and taste of sulphuric ether and creosote, and which has not like the latter the inconvenience of cauterizing every part that it touches, has the double advantage first, of drying up the dental pulpe very promptly, that is to say, in two or three applications, and often indeed in one alone, and according to the habitual expression, not very medical by the by, to carbonize the interior of the tooth. Second, of hardening in six or eight hours, in such a manner that it not only secures the caries from contact with the air and food, but also accustoms the tooth to the presence of a body, less hard it is true than any of the metals employed in plugging, and yet of such a consistence that it completely fills the carious cavity. It may serve then as a topical application from its escharotic properties, like all alcoholic tinctures, and as a retentive means for every substance such as opium, camphor, myrrh, &c., which it should be judged necessary to maintain a certain time in direct contact with the bottom of a dental caries.

Add to this, that its texture allows it to be easily withdrawn as soon as it is thought proper.

2. *Stopping material.*—When, by the employment of appropriate general and local means, we have managed to arrest the progress of a caries, and have as it were effected cicatrization, we ought to set about plugging in a definite manner; and I maintain that this operation, which is perhaps too much neglected in our day, might, properly done, preserve at least eighty teeth in the hundred of those which we are called upon to extract. Be this as it may, five kinds of metals have been hitherto generally employed: lead, tin, gold and platina, which are used in leaves, and the metal of Darcet, which is employed in the state of fusion.

Lead is with reason totally abandoned now, and this is almost the case with tin, which although filling up well enough, always oxidizes in time, and allows this oxidation to penetrate to the bottom of the caries which it tends to maintain; gold, and platina have been substituted for them with the greatest success. But gold which some modern dentists erroneously speak of having first employed for this purpose, since Fanchard describes it in express terms, is preferable to all. When suitably prepared it is excellent, not only because it does not very sensibly differ in colour from the teeth like tin, and even platina, which are always of an iron grey, but also because it does not oxidize like tin, and identifies itself more intimately than any other, with itself and the surrounding parts. It is only a matter of regret, that it is so difficult to procure pure gold in Paris; for M. Motin, *Rue Grénetat*, is almost the only person who furnishes it in this state; besides, it is less suitably prepared than that of Vienna in Austria, and even than that of the United States.

Metals in leaf, may be used as a means of dental obturation, in circumstances which authors do not seem to me, by any means, to have determined with sufficient strictness. These circumstances exist almost exclusively, either in cases of small caries centrally placed, or in those of caries, the opening of which is very narrow. But unhappily these cases are not the most common, for the caries are most frequently large, and very often affect the lateral portions of the teeth; a disposition, which on some occasions would not permit the metals in leaf to remain even twenty-four hours.

A more solid substance then must be sought for, one more susceptible as it were of forming an attachment to the tooth. This was supposed to have been found in the metal of Darcet, which is known to be merely a compound of eight parts of bismuth, five of lead and three of tin, to which one of our honourable professors, Mr. Regnard, has added a tenth of mercury to increase its fusibility. If this substance has over the metals in leaf, the advantage, 1st, of amalgamating more uniformly, and consequently of not leaving in its interior those gaps which I have often met with, in sawing teeth stopped with other substances; 2ndly, of not allowing a sort of capillary filtration of the buccal fluids into its interior; it has however one inconvenience, that is of requiring the employment of a temperature which, without being high enough to burn the teeth and surrounding parts, may nevertheless inflame the latter and dry up the enamel, even to produce cracking, so that although capable of doing great service, long experience and great prudence are heeded in its use: for it is not enough to know that "it melts at the temperature of boiling water;" we must be able to judge promptly, that temperature which below the desired point, leaves the operation incomplete and obliges us to repeat it, and which above this point may really burn.

To obviate all these inconveniences, I have availed myself for the last four or five years with undoubted advantage of a paste, which I have named the *silver paste*, and the composition of which I immediately communicated to several members of our profession. It is the same as that which an English dentist has very recently brought to Paris as a new thing, and which he has designated very mal-a-propos by the name of mineral succedaneum, a designation which is, to say the least of it, nonsensical, since it indicates neither its nature nor its uses. This paste is prepared with pure silver and mercury. For

this purpose a given quantity of mercury is saturated with pure silver, reduced to a very fine powder and well refined, the whole is triturated in a mortar about two hours, that the metals may incorporate well; and it is passed through, or in better words, the whole is forcibly expressed through a piece of kid skin, deprived of its epidermis, in order to extract from it nearly all the mercury. The residue thus obtained, is a very compact paste, which is to be enclosed in a wide mouthed well ground glass stoppered bottle, to be used when needed.

This preparation is used cold, being made to penetrate into the carious excavation with a stopping instrument, and is managed exactly like the substances in leaves. The mercury evaporating by the heat of the mouth alone, and that in the short space of three or four days, the silver remains in one piece in the hollow of the tooth, filling all its anfractuosities, and becoming as compact as if it had been cast in the same cavity. This new plan possesses then, an incontestable superiority over all at present commonly employed; since, in the first place, it amalgamates better and without requiring as much packing as the metals in leaves; next because it does not need the aid of fire like the metal of Darcet; finally because it does not harden until after a length of time that allows of its removal in case the experiment should prove that the tooth was not in a requisite condition for permanent stopping.

The silver paste undergoes scarcely any contraction, such as might be feared from the evaporation of the mercury of which there is, after its expression in the kid leather, but an almost inappreciable proportion. As to the fear that might be entertained of the action of this portion of mercury on the teeth, it is absolutely illusory, since this metal does not remain there except in an amount much less than in the metal of Darcet as modified by Regnard; it is infinitely superior too in hardness. In a word, this paste it appears to me ought to at once replace all other means of plugging, since it not only possesses all their advantages without their inconveniences; but it accommodates itself to almost every case, and presents at the same time both a perfect homogeneousness and a firmness which would be sought in vain elsewhere. This hardness is such in fact that the point of a steel instrument which very easily penetrates the fusible metal hardly scratches the other. I do then an act of duty in seeking to extend its use, by calling to it the attention of practitioners who think rightly that the loss of a tooth is always to be regretted, and that its extraction is a sacrifice only to be resolved upon at the last extremity.

MIDWIFERY.

41. *Case in which Six Pregnancies occurred during Amenorrhœa.* By Dr. Flechner, of Vienna.—A woman, now thirty-five years old, menstruated for the first time in her fourteenth year, being then but imperfectly developed. Menstruation continued regular for some time, but then ceased for nine months, during which time many symptoms of chlorosis appeared. She then fell into a feverish condition, which continued for several weeks, but left her in a better state of health than she had previously enjoyed. During her convalescence the catamenia reappeared, and they now observed a regularly periodical type for several years, though still usually accompanied by congestion of blood about the head and chest. In her twenty-second year she married, and during the next year gave birth to a healthy child, which she suckled for only a few months, for her supply of milk then decreased, though no traces of return of the process appeared. Instead of the latter there came on periodically pains in the head, varying in severity and length of continuance, with a sensation of pressure and heat in the frontal and parietal region, and frequently great distress of breathing and palpitation of the heart, or even more or less distinct paroxysms of asthma. Notwithstanding the physiological energy of the uterus seemed completely paralyzed, yet after two years she again became pregnant. Gestation and parturition were gone through in the same manner as at the first time; and then, in

the place of the catamenia, which were still suppressed, the same train of periodical symptoms again came on. In this way the woman became a mother six times in the course of thirteen years, without a trace of menstrual fluid ever once appearing; and she declared that during this time she had observed neither a blenorrhœa nor any morbid secretion of the uterine or other system, that could be deemed vicarious of the catamenia.

Cases of conception during lactation, before the return of the catamenia, are by no means rarities, and the secretion of milk continued for a year sometimes hinders the secretion of menstrual blood without at all excluding the possibility of conception. But in this case the peculiar condition induced by lactation could have had nothing to do with the suppression of the menses.—*London Med. Gaz.*, from *Medicin. Jahrbücher Osters Staates*, B. xxx, S. iv.

—

42. *Singular Case of Tumour in the Pelvis.* By Professor von D'Outrepont, of Würzburg.—A woman, twenty-six years old and well made, gave birth when twenty-five years of age to her first child without difficulty. Towards the end of her second pregnancy she again applied at the hospital in consequence of experiencing pain in the pelvic region. Vaginal examination discovered a hard and painful tumour, extending from the inner surface of the left ischium nearly to the corresponding point on the opposite side. It was hard, globular, even on its surface, and occupied the ascending ramus of the ischium and the descending ramus of the pubis, and extended over the obturator foramen. It was impossible to reach the lower segment of the uterus, or to feel any part of the child.

The size and hardness of the tumour seemed to leave no chance of the birth of a living child, even by the induction of premature labour. Professor D'Outrepont, who doubted whether the tumour was fibro-cartilaginous, or a true bony exostosis, asked the opinion of many eminent men who saw the case. They did not express themselves with certainty as to its nature, and the patient refused to allow an experimental incision to be made into the tumour.

A short time before labour began, the tumour was thought to have become slightly compressible. When labour commenced, the professor called a consultation in which it was determined that unless a great change had taken place in the character of the tumour, an attempt should be made to remove it, or to cut away the bone if that should be found to be implicated, and as a last resource, to perform the Cæsarean section.

On an examination being made, the right foot of the child was found to present, the cord was prolapsed, and did not pulsate. The tumour, however, was found to be so much softened that it was possible to pass three fingers through the outlet of the pelvis. Professor D'Outrepont brought down the foot, in doing which he found that the hips had compressed the tumour still more. The chief difficulty was experienced in extracting the head by means of the forceps, which gave the patient considerable pain. The child was still-born, but was speedily recovered. After the birth of the child the tumour regained its former size, so that the placenta could not be expelled by the natural efforts, and it was necessary to introduce the hand in order to remove it.

The patient recovered rapidly, and returned ten weeks after her delivery, in order to have the tumour removed, which operation was performed by Professor Textor. The growth was found to be fibro-cartilaginous, and was connected neither with the bone nor the periosteum. It weighed 11 1-2 ounces, and was so hard that none but they who were present at the patient's delivery, could have believed its previous softening possible. The patient was completely cured.—*B. and F. Med. Rev.*, from *Neue Zeitschrift für Geburtskunde*, B. ix, S. 1.

—

43. *On the best and surest way of inducing Premature Labour.*—Dr. Meissner of Leipsic, from experience condemns all the usual means of inducing premature delivery, as none of them are free of danger to mother or child. Thus puncture of the membranes, by allowing the *liquor amnii* to escape, often causes death of the child; dilatation of the uterine orifice by means of prepared sponge is tedious, and apt to give rise to dangerous uterine irritation, as is also separation of the

membranes, and titillation of the vaginal portion of the uterus; whilst ergot of rye, borax, &c. are often fatal to the child and dangerous to the mother.

During the last five years he has attended 900 deliveries, and has induced premature labour in eight with perfect safety to both mother and child. In all these cases the women were deformed or rickety, and their pelves were diminished in their antero-posterior diameter so much as in their previous deliveries to require perforation of the head of the infant in order to effect their delivery.

Dr. Meissner never induced premature labour till the thirty-sixth week of pregnancy, and in all the cases the antero-posterior diameter varied from two inches and three quarters to three inches one line. His mode of operating, which is a modification of that by puncture of the membrance, was the following. A very slender canula is provided of about 13 or 14 inches in length, and bent regularly in the form of a segment of a circle. It has a ring soldered on the convex side of its lower extremity, in order to give a more secure hold, and allow of the point of the instrument being accurately guided. This canula is provided with two trochars, one with a blunt point and the other with a sharp-cutting point. When the instrument is to be used, the blunt-pointed trochar is introduced to the canula, and projects beyond its orifice so far as to prevent the edge of the tube injuring the parts. The patient then stands before the practitioner, who kneels before her, the usual manner in which vaginal examinations are made on the continent, or she may sit on the very edge of a chair or of the bed. The forefinger of the left hand is then introduced into the vagina, and the canula guided along it to the orifice of the uterus, making the convexity of the instrument correspond to the curve of the sacrum. The point of the instrument is then pushed slowly backwards and upwards, so as to make its rounded point slide between the uterus and the back of the membranes. When the point is once past the neck of the uterus, it advances easily, care only must be taken to detach the membranes as little as possible. When the point of the instrument is about 10 or 11 inches within the *os uteri*, the blunt-pointed trochar is withdrawn, and the handle of the instrument is pressed against the perinæum, to detect, if possible, against what the point of the canula is pressing. If it be felt to be a hard body, the point is made to move to one side or other till an elastic fluctuating spot be reached, which shows it is opposite the membranes alone; the sharp-pointed trochar is then introduced and perforation of the membranes is made. The trochar is then withdrawn, and about a table-spoonful of the *liquor amnii* is allowed to escape; after this the canula also is removed, and the woman is allowed to walk, sit, or lie down at her own pleasure. The amniotic waters after this slowly, and drop by drop escape, and appear to prepare the parts for delivery, so that after 24 hours the hand may easily be introduced into the vagina. Labour-pains usually come on from 24 to 48 hours after the puncture of the membranes; in several of the cases, delivery was completed 36 hours after the puncture.—*Ed. Med. and Surg. Journal*, from *Medizin. Annalen*, No. 4 Vol. vi.

—

44. *Compressson of the Aorta as a means of arresting Uterine Hemorrhage.*—Dr. Piedagnel communicated to the *Société Médicale d'Emulation*, on the 4th of April, 1840, two cases in which uterine hemorrhage, following labour, was immediately arrested by compression of the aorta. These cases were referred to MM. Velpeau and Brierre de Boisment, who made a report in relation to them on the 6th of May. This last paper contains so admirable a summary of the history of this therapeutic measure, that we are sure we shall gratify and instruct our readers by transferring the principal part of it to our pages.

"The idea of compressing the aorta to arrest uterine hemorrhage, must naturally have suggested itself as soon as the laws of anastomosis became well known, and accoucheurs saw the splendid conquests of modern surgical art in the vast field of aneurisms. But before investigating the origin of hemorrhages and discussing the value of compression, it is not without utility, in a few words, to trace the history of this new mode of cure. When MM. Trehan and

Baudeloque (nephew) published their memoirs,* compression had not been practised at all in France, but the moment that attention had been called to this subject, the ancients were searched, the foreign journals were hunted through, and soon, according to invariable custom, it was found that many authors before MM. Trehan and Baudeloque had spoken of this hemostatic remedy. This time we cannot go back to Hippocrates, and the honours of this priority fall to Daniel Louis Budiger, an accoucheur of Tubingen. In order to ascertain the real truth of these assertions, we have consulted the works referred to; and here is the result of these researches: Budiger employed compression of the aorta for the first time in a female who had just lain in and was at the point of death from loss of blood. The flooding lessened immediately; the uterus contracted; the mother was revived and saved. Budiger adds that he has had recourse to this remedy in a score of cases.

"Ploucquet published the new operation, the description of which had appeared in the Journal of Loder in 1797. He says positively that compression of the aorta had been made *per manum in utero adhuc expanso.*†

"Compression of the aorta to arrest uterine hemorrhages had been proposed, or at least employed nearly at the same epoch, by the celebrated Danish accoucheur, Math. Saxtorph. He compressed this vessel by acting on the womb through the walls of the abdomen.‡

"In 1812 Boër expressed himself thus: 'Inter alia conamina nuper etiam hoc legimus; inductâ manu posterior uteri paries satis opprimitur ut, descendentis retro aortæ, velut suffocatione sanguis irruere in interum per subditos ramos præpediatur. Ecce nova alia procul ægris excogitata instructio! Quam circa candidus afferans quæ duobus periculis sum expertus. Ubi nempè uterus modice crassus et contractus est, compressio arteriæ, etiam si fieri possit, inefficax, ac ne quidem necessaria est. At flaccido et amplo viscere, ut manus robur in arteriam penetret, mors alioqui fores pulsat, ex uteri paresi scilicet, cujus hemorrhagia solum consequentia est, ut, nisi apoplexiam loci sustuleris, ægra occidat, sanguis fluat, necne. Id saltem compertum in præsens ego habeo."§ This passage from Boër's work conclusively establishes that compression of the aorta was well known in Germany; that accoucheur, however, entertains an unfavourable opinion of this proceedure, although it is probable that he objects to the manner of doing it. At the present day compression in the uterus is generally abandoned.

"Dr. Ulsamer, of Würzbourg, repeatedly compressed the aorta with success. The cases cited by him in his work are clear and precise.‖ He used two fingers to arrest the course of the blood. Nearly at the same period Eichelberg, Siebold, MM. Baudeloque, nephew, and Tréhan reported cases of cure of uterine flooding by compression of the aorta. The two latter physicians, who were not aware of the labours of the Germans, believed themselves to be the inventors of this operation, and laid claim to the priority in it. Siebold's researches were made in 1828. In the case cited by him the aorta was compressed with the fist.

"We shall not dwell longer on this order of facts; they put it beyond a doubt

* Trehan, p. 1. Nouveau traitement des hémorrhagies utérines qui suivent l'accouchement par la compression de l'aorte.—Paris, 1829; in 8vo., p. 29. Baudeloque neveu, Traitement des pertes de sang qui peuvent suivre l'accouchement, par la compression de l'aorte exercée sur le ventre, la pression convenable du ventre et l'usage du seigle ergoté et des fortifians.—*Journ. des Conn. Méd. Ch.*, 1834, t. i, p. 201.

† Loder's Journal, für die Chirurgie Geburtshülfe und Gerichtliche Arzneikunde, b. 1, p. 493, 1797; vide t. ii of Ploucquet, Repert. Medicinæ Practicæ Chirurgiæ atque rei Obstetricæ, art. *Hemorrhagia, Compressio aortæ descendentis*, p. 261. Tubingæ, 1808.

‡ Math. Saxtorph's Gesammelete Schriften Geburtshülflichen, praktischen und physiologischen inhalts. Complete works of Math. Saxtorph, published by P. Scheil, Copenhagen, p. 229.—1803.

§ Boër, Nat. Med. Obstet. lib. sept., p. 525.—Vienna, 1812.

‖ See Friederich et Hesselbach: Beitraege zur Natur und Heilkunde, t. 1, p. 261.—1825.

that the treatment of uterine floodings by compression of the aorta is by no means new, and if honourable physicians have insisted on their having discovered this expedient, it is because, at the epoch of their proclaiming it, the works of the Germans were very little known, owing to the difficulties presented by their language.

"Compression of the aorta is then unquestionably registered in the annals of our science; but has this remedy all the efficacy attributed to it, or are we to believe, with some, that it is useless and even hurtful? Two opinions so opposite can only arise from the mode of explaining the origin of uterine hemorrhage.

"If the blood be furnished by the arteries—and the anatomical disposition of the vessels, which acquire a prodigious development, favours this opinion—the theory would teach us to compress the main trunk; but if the blood comes from the venous system, as M. Jacquemier assures us it does, compression of the aorta would have none of the utility accorded to it. The last named author, founding his opinion on an examination of the vascular circle of the uterus, and of the manner in which the venous circulation is effected there, ascribes flooding mainly to a want of resistance of the utero-placental veins. Whatever tends to favour the stasis of blood in the uterine veins a little too long, establishes a predisposition to repeated losses. The quantity of blood furnished by the utero-placental arteries must be infinitely small.

"Compression of the aorta, continues Dr. Jacquemier, cannot attain the end proposed. By that measure we force the blood to pass more rapidly and abundantly through the divisions of the aorta above the point compressed; the upper vena cava bringing to the right auricle more blood than usual, the lower vena cava remains in a state of distension. The ovarian and uterine veins destitute of valves, partaking of the overloaded state of the inferior vena cava, it follows that the blood retrogrades into the uterine cavity, as long as the contraction of the uterus does not serve as a valve or check.*

"It cannot be denied that M. Jacquemier's explanation is ingenious; but we must admit that the mechanism of uterine floodings is similar to that of other hemorrhages; if it be so, the capillaries ought to have a large share in the production of these hemorrhages, which take place then by a true exhalation from the internal surface of the uterus. This explanation, favourable to compression of the aorta, is moreover justified by the facts already cited, and by the observations we are about to report.

"But if compression of the aorta be, as M. Velpeau thinks, a resource at once important and easy, it must not be lost sight of, that in thus suspending the afflux of arterial blood, we may equally check the return of venous blood, and that we ought, as much as possible, to avoid, at the same time, compressing the vena cava.

"M. Piedagnel's observations are two in number; the first was in the case of a young lady, whose confinement, which had been natural, was followed by a flooding which cold water injections could not arrest. This physician then had recourse to compression of the aorta, seconded by the employment of refrigerants. The patient presented most of the symptoms observed in persons perishing of hemorrhage. As soon as he had put this expedient in operation, the flow ceased, but the convalescence was long.

"Observation second relates to the same lady. Her flooding was immediately combated with compression of the aorta; the blood stopped running, but the womb remained inert; a stream of cold water, directed into the interior of the organ, brought on contractions. Napkins placed above and maintained by a body bandage, completed the cure. The duration of the flow, in this instance, was from 20 to 25 minutes.

* Recherches d'anatomie, de physiologie et de pathologie sur l'uterus humain pendant la gestation, et sur l'apoplexie utéro-placentaire, pour servir à l'histoire des hémorrhagies utérines, du part prématuré et abortif; par M. Jacquemier.—*Arch. Gén. de Méd.*, 1839.

"There is no accoucheur who, in the course of his practice, has not seen women recently delivered losing blood enough to bring on swooning, dimness of sight, and partial fainting, and these symtpoms spontaneously disappearing at the moment we are about having recourse to energetic treatment. At other times cold applications and astringent drinks have sufficed to suspend the discharge of blood. In many cases we have availed ourselves most successfully of stimulation of the uterus, whose contractions we have excited by passing the ends of the fingers over the internal surface of the organ, while we compressed the womb with the left hand on the abdomen. Finally, the administration of ergot has very often triumphed over uterine hemorrhages. Perhaps the employment of some one of these means would have sufficed in the second case; but M. Piedagnel, who still had in his mind the grave symptoms of the former hemorrhage, acted prudently in resorting to the remedy which had succeeded so well with him the first time.

"The interest attached to this subject engages us to report two other cases, which we owe to the kindness of our honourable confrère, M. Pinel Grandchamp. A lady, after a laborious delivery, in 1834, was taken with a considerable flooding. M. Pinel, time after time, introduced his hand into the vagina and uterus, to extract the clots and excite the internal face and the neck of this viscus, expressed into the womb the juice of several lemons, and made free aspersions of cold water, all in vain, the swoons rapidly succeeded one another. In this state of things our colleague thought of compression of the aorta, and practised it for an hour. When he intercepted fully the passage of the blood in the artery, he observed the following phenomena:

"The countenance regained a portion of its natural colour; the eyes became more animated, the lips more rosy; the pulse rose again; it was frequent, and had some fulness; the strength of the heart was increased; the patient came out of the state of syncope or prostration, into which a slight compression had almost immediately thrown her. She then said that she felt much better. The blood no longer flowed externally, although the uterus and vagina were freed from clots.

"When he suspended the compression, the blood no longer issued as abundantly, or with the same force, but if it recommenced flowing, all the phenomena of syncope reappeared, and the pulse almost ceased beating. Only an hour and a half after the operation, the uterus began to recover itself and contract so as no longer to create any fear of inertia. Twelve days afterwards the patient was perfectly restored.* No ergot whatever was administered; it would probably, adds M. Pinel, have aided me in more quickly overcoming the inertia of the uterus.

"In the course of that year M. Pinel Grandchamp was called, in consultation, by Dr. Marye, to a woman who had been losing blood several hours. By touching he recognised the placenta inverted on the neck. Having introduced three fingers behind the symphisis, partly to detach the placenta, he ruptured the bag of waters, and slowly penetrated into the interior of the womb. The head was in the first position at the superior straight; he applied the forceps in this straight, which, on account of the space in which we manœuvre, is easier than generally supposed. The child was withdrawn alive, but half asphyxiated. While our cares were directed to its recovery, the sound of a liquid running on the floor apprized us that the mother was bleeding freely.

"Notwithstanding her delivery the blood continued to flow, and the patient's faintings continually increased; M. Pinel, after having in vain injected cold water, and squeezed several lemons in the cavity of the womb, resorted to compression of the aorta, which momentarily arrested the flooding; but as soon as they ceased applying the fingers the blood reappeared as abundantly as before. At length, an hour having elapsed, it seemed to run somewhat less. A peeled lemon was introduced anew, and the hemorrhage gradually stopped.

"These cases, those reported by the authors, sufficiently attest the utility of

* Censeur Médical, Avril, 1834, p. 301.

compression of the aorta. But this point established, it remains for us to consider the place to be chosen for the operation, the manner in which it is to be performed, and its duration.

"All the modifications proposed can be reduced to three procedures. Some, as Budiger, Eichelberg, carry the hand into the uterus; others, as Saxtorph, reach the aorta by acting on the womb through the walls of the abdomen; finally, the third party, whose method is generally followed now, compress the artery above the womb.

"The introduction of the hand into the uterus, and resting on its posterior region, has been rightly blamed. This plan indeed is bad, and of difficult application; it exposes the tissue of the organ to a kind of attrition; it is moreover impracticable when the womb begins to react. However it has many times succeeded. Eichelberg cites the case of a woman in whom compression thus effected lasted an hour; the moment it was stopped the blood flowed.

"The physical condition of the female just delivered is favourable for compressing the aorta independently of the thinness of the walls, which, by the spreading out of the recti abdominis muscles, are reduced to that of the skin and two aponeurotic and serous membranes, which allow the aorta and vena cava to be almost directly touched; the intestines have, so to speak, chosen an abode in the lateral portions of the abdomen.

"The fundus of the womb also can easily be pushed into the region of the loins, or into the pelvis, whilst in the normal state, besides the thickness, sometimes considerable, of the walls, due to the accumulation of fatty cellular tissue, we are obliged to press on the intestines in order to reach the aorta, which makes the operation more difficult and painful.

"Compression through the abdominal parietes can be exerted with the thumb, with two or with four fingers, as preferred by MM. Baudeloque, Tréhan and Ulsamer. We have seen that Siebold had practised it with the closed hand applied a little to the left of the spine; this plan is more difficult in execution than the two preceeding. M. Piedagnel employed the cubital margin of his hand. M. Pinel Grandchamp, advises us to press the artery moderately with the fingers; in bearing forcibly on the vessel the fingers grow numb and the operation cannot be continued long by the same person. This means, it appears to us, ought to be employed in preference to all others. To reach the aorta the precaution must be taken to turn aside the intestines; the arterial pulsation indicates the presence of the vessel. It is then compressed longitudinally without involving the inferior vena cava in the manœuvre.

"The duration of the compression has been a matter of very diverse opinions. Some have limited it to five, six and seven minutes; others have prolonged it an hour or two. Eichelberg and M. Pinel Grandchamp, did not succeed in arresting the blood in less than an hour. M. Paul Dubois thinks we must continue this operation an hour or two, and then suspend it by degrees, assuring ourselves that the bleeding appears no more. The examples cited by us prove that simple compression suffices to check the hemorrhage, but we believe it better to associate with it the spurred rye, (ergot).

"However it may be with the combination of these two means, we are not the less persuaded that compression of the aorta has been and will be of real service; moreover M. Piedagnel appears to us to have done well in adding his observations to those of Blount,* of MM. Brossart,† Latour,‡ Lowenhardt,§ and Martins.‖—*La Lancette Francaise, May* 12, 1840.

* Ingleby on Uterine Hæmorrhagy, p. 249.
† Thesis, Strasbourg, Feb., 1830.
‡ Revue Médicale, t. iii., p. 22, 1830.
§ Revue Médicale, *id.* ‖ *Ibid.*

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

45. *Symptoms of Rupture of the Bowels.*—"The symptoms following ruptured bowel are deathlike from the moment of the injury. They are quite unlike those of inflammation and of gangrene, and are indeed *sui generis*. The mind is clear but depressed, as if overwhelmed by the irreparable nature of the injury. The countenance is pale, and the features liny and drawn. The pulse is not immediately affected, but soon becomes quick, feeble and irregular in its measure, intermitting, thready, and then no longer to be felt. The surface chills, but remains dry; there is a painful sense of dryness of the mouth and fauces and frequent efforts to vomit. Pain, which commences at variable periods, but is never long delayed, is acute, unremitting, extending over the whole abdominal region, which becomes tense, and will not bear the slightest pressure. This produces great anxiety and restlessness, and frequent appeals for relief, and next for death. The peritoneal surface is reddened, but there is seldom any effusion of membranous or massive lymph agglutinating parts; only small deposits in tags and shreds roughening the surface, although the period of survival varies from twelve to six-and-thirty hours; the state of the canal perhaps determines this variation."—*Benjamin Travers, in Medico-Chirurgical Transactions*, vol. xxiii. T. R. B.

—

46. *Remarkable effect upon the Human Gums, produced by the Absorption of Lead.* By Henry Burton, M. D., Physician to St. Thomas's Hospital.—The only approach to the observation now to be stated, is a notice by Dr. Christison, and Dr. A. T. Thomson, that in persons who have taken lead in quantity, salivation is apt to occur, and the saliva is of a *bluish colour*. Dr. Burton, from observations made since 1834, on persons who had been exposed to the action of lead in the course of their usual avocations, and of those also who had swallowed the acetate of lead medicinally, is of opinion, that salivation in the ordinary sense of the term, does not occur in one case out of thirty-six cases of lead colic, the number examined in his wards; nor in one case out of fourteen cases of pulmonary disease, which were treated by him with acetate of lead, but in the total number of fifty patients, who were examined whilst under the influence of lead, a peculiar discoloration was observed on their gums, which he could not discern on the gums of several hundred patients who were not under its influence.

The edges of the gums attached to the necks of two or more teeth of either jaw were distinctly bordered by a *narrow leaden-blue* line, about the twentieth of an inch in width, whilst the substance apparently retained its ordinary colour and condition. There was no invariable tumefaction, softening or tenderness about them—nor fetor of the breath—while the quantity and colour of the saliva preserved the same appearance after as before the appearance of the blue line.

This appearance has no resemblance to the effects caused by mercury. On the contrary, the blue line was obliterated on patients with lead colic, to whom calomel was given in sufficient quantity to affect the system.

While the discoloration of the gums is a very constant and *early* occurrence from the effects of lead, Dr. Burton is of opinion that salivation and turgidity of the gums are rare events, and not characteristic of its influence. The discoloration is also permanent—requiring a length of time to remove it—and in several instances, it continued and was manifest after death.

As this change takes place either from large doses of lead, taken internally, or its action on workers in it, Dr. Burton suggests that a knowledge of its cause may be usefully employed in leading to an early treatment of the patient.—*Ibid.* T. R. B.

—

47. *Brucine.*—Brucine is considered by Dr. Fuss to be merely a mixture

of strychnia with a resin, from which it may be separated by a peculiar method. —*London and Edinburgh Philosoph. Magazine*, March 1841. T. R. B.

48. *Detection of Arsenic.*—Dr. Figuier recommends that the following plan be adopted:—Cut the suspected matters in pieces, and boil them for four or five hours in water, maintaining a slight alkaline reaction in the liquid. When cold, the fatty matters which swim on the surface must be separated, and the liquid filtered. The filtered liquid is then slightly acidulated by hydrochloric acid, evaporated to dryness, and the residuum dried, but not carbonised.

It is then redissolved in warm water, and filtered to separate the deposit caused by desiccation. The brown liquid thus obtained is submitted to a current of washed chlorine gas, until it ceases to be rendered turbid by the gas. The precipitate is again separated by filtration, and the liquid boiled in a porcelain capsule to expel the chlorine. The liquid is then introduced into a modification of Marsh's Apparatus.

This consists of a flask, closed by a cork, which is traversed by two tubes, one of which terminates at its upper extremity in a funnel, and descends to near the bottom of the flask. The other is a bent tube of about one-fourth of an inch in diameter, and drawn out at its extremity. In the horizontal part, are placed some pieces of fused chloride of calcium, and farther on, some fragments of porcelain; to this latter part of the tube the heat is to be applied. Zinc in proper quantity is now placed in the flask, and diluted sulphuric acid is poured in by the funnel tube. When the disengagement of gas has gone on long enough to avoid the danger of explosion, heat to redness is applied to that portion of the tube which contains the porcelain, and then the decoction prepared as above, is poured into the flask. If the mixture in the flask foams so much as to be likely to enter the tube, five or six grammes of alcohol poured in through the funnel will check it instantly.

If the liquid tested, contains any traces of arsenic, it will soon show itself at a short distance from the point heated red hot, in the form of metallic arsenic. The operation should be continued one or two hours. Then cool the tube and separate it from the rest of the apparatus. The metal may now be tested, or the tube may be hermetically sealed by the lamp and preserved for future exhibition.—*Journal of the Franklin Institute*, April 1841, from *Journal de Pharmacie*. T. R. B.

49. *Healthy Appearance of the Internal Surface of the Stomach.*—Very various are the accounts given by different authors who have written upon this subject, of the natural and healthy colour of the mucous membrane. It has been described as being white, grayish white, grayish, reddish, grayish approaching to yellow and red, straw coloured, &c. Billard, in whose opinion, Dr. Hodgkin is inclined to place most confidence, states it to be a dead milky white. According to Buisson and Bichat, the colour is of a deep red, and Sabatier and Habicot describe it as of a reddish purple and deep purple. Gavard, Boyer, Soemmering, Chaussier, and Adelon make it of variable shades between red and gray. Rousseau who derived his opinion from the examination of the bodies of criminals dying by the hands of the executioner, (by the guillotine, we presume), states that the colour of the gastro-intestinal canal is white, or white faintly tinged with red. Dr. Yelloly states, that in various opportunities which he had of examining the human stomach soon after death, in such parts of it as were free from vascularity, it had usually a light straw-coloured tinge, but gives it as his opinion, that from the analogy of the mucous covering of the mouth and fauces, and of the urethra, it is probable that when circulation is going on in the stomach, its inner surface is of a pale red hue, arising from vessels so minute as to give an uniform colour, without any appearance of distinct vascularity. We are ourselves rather disposed to agree with M. Hippolyte Cloquet, who describes the usual appearance of the membrane as being of a reddish white and mottled, (comme marbrée), but we must observe that this diversity

of opinion as to a fact so evident to the senses, could only have arisen from the varying appearances of the membrane presented to the several observers under different circumstances of disease, or from the effects of certain physical agents acting during the last moments of life. The manner of death would appear to exert considerable influence; the presence of aliment recently taken into the stomach causes a decided red tinge throughout the membrane; extremes of cold and heat, according to Beaupré, are also productive of a like effect in the mucous membranes generally, and the stomach has been observed to take a decided tinge from various medicines administered shortly before death.*—*British and Foreign Medical Review*, April 1841. T. R. B.

50. *Peculiar Action of Sulphuric Acid on the Stomach.*—"An important remark, by Dr. Hodgkin, which from its bearing on medico-legal inquiries, we must not pass over, is, that where an intense active agent (boiling water and sulphuric acid are especially referred to) has been swallowed or forced into the stomach, it is, as it were, discharged against that part of the internal surface of the stomach which is immediately opposite the opening; and that upon this spot, an almost instantaneous change is produced, which is deeper and more intense than that which is afterwards produced in other parts of the mucous membrane, when the agent is diffused over them, lowered in its activity by the mucus, which is rapidly secreted, and which does not merely dilute the noxious agent, but in some degree, protects the membrane. This spot is that portion of the great curvature situated immediately opposite the œsophagus, whereas, in other cases, the most intense degree of injection is usually met with at the cardiac extremity. When, therefore, this part of the stomach is affected rather than that which is the more common seat of the appearances of inflammation, it may, as the author observes, lead us to the suspicion, that some fluid, capable of producing an immediate effect, has been swallowed."—*Ibid.* T. R. B.

51. *Laburnum Seeds.*—On the 3d of December, 1840, eleven boys of the age of six to nine years ate, *immediately after dinner*, the seeds of a laburnum tree growing in their play ground, at a school in Brentford, near London. According to the quantity taken, which never exceeded five seeds, it caused vomiting and purging, or purging alone, or nausea, with drowsiness, dilated pupils, and a weak pulse. Some escaped, without any affection of the stomach, but all were more or less affected with the other symptoms. The treatment consisted in a salt and water emetic to those who had not vomited; a warm bed, with a few drops of aromatic spirit of ammonia to the faint, and for the three who had the head affected, a high pillow, a cold lotion to the forehead and temples, and hot bottles to the feet. The next day, after a gentle aperient, all were well. Mr. Bonney, *Lancet*, January 9, 1841. T. R. B.

52. *Salts of Platina.*—According to Dr. Hoeffer, (*Gazette Médicale de Paris,*) the preparations of platina (chlorides) are poisons; the perchlorides in the dose of a scruple; the double chloride of platina and sodium in the dose of two scruples. They are, however, less dangerous than the salts of gold and corrosive sublimate. The perchloride of platina in concentrated solution, produces acute itching on the skin, followed by a cutaneous eruption in the situation where the solution has been applied. Taken internally, it at first irritates the mucous membrane of the stomach, occasions cephalalgia, reacts on the nervous centres, and that exercises a peculiar alterative action on the fluids of the economy. The double chloride does not produce local irritation on the skin. Dr. Hoeffer recommends the salts of platina as alteratives in syphilis.—*British and Foreign Medical Review*, April 1841. T. R. B.

* The valuable researches of Prof. Horner relative to this subject ought not to have been overlooked. A full account of them, illustrated by coloured plates, will be found in the No. of this Journal for November, 1827.—Ed. Am. Journ.

53. *Appearances on Dissection in persons hung.*—The following is an extract from Dr. Watson's Lectures on the Practice of Physic, at King's College, London. Dr. Kellie desired to ascertain whether, under circumstances calculated to gorge the vessels of the *head*, those of the *brain* were or were not made really more full than usual. He examined the brains of two men who had been hanged. When the scalp in these cases was divided, a great quantity of blood escaped, marking plainly enough the congestion of vessels *exterior to the cranium*, but there was no such congestion observable within; "the sinuses contained blood, but in no extraordinary quantity; the larger vessels on the surface, and between the convolutions, were but moderately filled, and the pia mater was, upon the whole, *paler* and less vascular than we often find it in ordinary cases." I can corroborate the accuracy of Dr. Kellie's observations in these last instances, by what I have noticed myself. I paid particular attention to the condition of the head, when the body of Bishop, who murdered the Italian boy, was examined. When he was brought here after the execution, the eyes were blood-shotten and the lips and countenance turgid and livid. The inner surface of the scalp, when it was turned back, and the exposed surface of the skull, were very red and bloody, and in one part, on the right side of the head, there was some blood *extravasated;* but when the bone had been sawn through, and the skull cap removed, the large veins of the brain did not appear unnaturally full.

In the year 1826, I was present at St. Bartholomew's Hospital, at the opening of the head of a woman who had been hanged, the day before, for murder. I find the following statement in a note which I made at the time. "The scalp was bloody, but the brain was of a very natural texture and appearance, and not more than usually full of blood."

In France, they execute criminals by means of the guillotine, and some curious speculations have been raised, as to whether the head, after decapitation, remains for a short time sensible of what is going on or not. These speculations have led to a closer observation of the phenomena that immediately succeed this mode of punishment, and it has been noticed that although much blood is effused as soon as the head is severed from the body, it comes from the vessels of the *trunk*, and that the arteries and veins of the head do not discharge themselves of their contents for some little time. All these facts go to the same conclusion, viz. that so long as the solid contents of the cranium remain entire, the quantity of blood contained in the vessels does not and cannot vary much.—*London Medical Gazette*, February, 1841.

In the case of Scott, the American Diver, who hung himself *accidentally* in London, in consequence of using a slip knot to suspend himself, instead of a bowling one, the body was examined twenty-four hours after death. There was a mark on the skin around the neck, but it was quite superficial, and did not extend to the cellular membrane. There was scarcely any mark over the larynx; it passed up anterior to the ears. The brain presented nothing unusual, except that it was somewhat congested at its posterior part; the spine was healthy and sound; the lungs were very much congested, and the heart and large vessels were full of fluid blood; the lining membrane of the air passages was particularly congested.—*Lancet*, *No.* 909. T. R. B.

—

54. *Protracted Gestation.*—A case involving this question was recently brought before the House of Lords, in England, on appeal from the Scotch courts. It is reported in Shaw and Maclean's Scotch Cases, vol. 2.

Innes v. *Innes.* Without referring to the other details, it is sufficient to state that Mr. Innes, the supposed father, left Edinburgh, on the 17th of June, 1826, that he departed from London for the continent, on the 26th of that month, that he returned to Edinburgh on the 19th of September, and the appellant was born on the 14th of April, 1827. From the 17th of June to the 14th of April, are nine calendar months and 27 days, or 301 days. From the 19th of September to the 14th of April, there are 207 days, being seven lunar months and thirteen days.

It was not contended, or if contended, the plea was abandoned, that this was a premature birth, since it was proved by Dr. Thomson, who delivered the mother, that the appellant was "a full grown birth." The question, therefore, was confined to the point of protracted gestation, and on this, the following testimony was presented.

For the pursuers, (plaintiff,) Dr. James Hamilton, Jun., Physician in Edinburgh, Professor of Midwifery in the University of Edinburgh, depones, that he thinks that ten calendar months is an unusually long period of gestation, but not by any means without precedent; that in the course of his practice, he has had occasion to know a very few cases of such protracted gestation, with regard to which he could entertain no doubt; that he has known one case of a patient passing eleven menstrual periods by seven days; that by calender months, the deponent means consecutive months, beginning at any one month in the year. Interrogated for the defenders, whether the number of cases which he has known, in which gestation was protracted to ten calender months, has, in his experience, been so great as one in a thousand? Depones certainly not. Interrogated, whether it may have been one out of two thousand, or three or four or five thousand; depones that it is impossible to answer this, because a person does not think of keeping a list. Interrogated, whether in computing the period of gestation, a medical man must not necessarily depend on the statements of the woman, as to the period from which conception is supposed to commence? Depones that the information obtained from the patient relates to the date of the last menstruation.

Dr. John Moir, Surgeon to the Lying in Hospital, Edinburgh, gave similar testimony in favour of prolongation of the period in a few cases.

For the Defenders. I will only quote the testimony of Dr. John Thatcher, Physician in Edinbrugh. He deposed, "that he had been in practice as an accoucheur for nearly thirty years, during which he had delivered above 10,000 patients; that gestation protracted beyond nine calendar months is a possible, but not a very probable circumstance. Interrogated, whether he believes in a gestation of ten months? Depones, that two such cases, perhaps, three have been reported to him; but that he considered these, and considers such case generally, as founded solely on miscalculation or misapprehension; that wherever the woman is of bad character, or has an interest to deceive, he would most assuredly ascribe the statement, that she has gone long beyond the ordinary period, to these circumstances. Interrogated, whether in judging accurately of the exact period of gestation, he is not obliged to depend entirely upon the statements of the woman, or at least to depend so much upon these statements, that no certain conclusion can be drawn independently of them? Depones, that in general, in respectable practice, certainly he does rely upon the statement of the woman, but that in the later months of pregnancy, if required, accurate and scientific examination could be made correctly, or nearly so, to ascertain its state of advancement, independent of any statement on the part of the mother, but that if no such examination be made, the woman's statements are the only guide; that women without any motive of deception, are frequently mistaken as to the period of gestation. Interrogated, whether the woman, when there is any unusual protraction, must not be aware of this fact. Depones, I think she unquestionably must."

As this was according to Lord Wynford, an "infamous case," the mother being of decidedly bad character, the House of Lords declined to support the doctrine of protracted gestation. T. R. B.

—

55. *Poisoning with Binoxalate of Potash.*—A female aged 20, took about an ounce of this, previously dissolved in hot water; about an hour and a half thereafter, she was found lying on the floor quite faint, having been previously very sick. As soon as the nature of the poison was discovered, four ounces of the cretaceous mixture were given, to neutralize the acid. She was now extremely depressed, the pulse very feeble, skin cold and clammy, with continued rigors affecting the whole body. She complained of a scalding sensation in the throat

and stomach, pain in the back, soreness of the eyes and dimness of vision. The conjunctivæ of both eyes were a good deal injected, and both pupils were dilated. She was wrapped up in warm blankets and bottles filled with hot water, were applied to her feet. She also took occasionally some ether and tincture of opium in camphor mixture. In about an hour, reaction occurred, with a hot skin, and quick and full pulse. The pain in the throat now extended to the abdomen, with tenderness on pressure. For this leeches were applied, followed by warm fomentations. The treatment proper for reducing inflammation was continued, and the next day she was much better. Sulphate of magnesia was prescribed to obviate the existing torpid state of the bowels; but it was necessary to exhibit this in small doses, as faintess recurred. She recovered in a few days.

This is probably the first case on record of poisoning with the binoxalate of potash. It is employed largely as a decolorizing agent by those who prepare straws for the manufacture of bonnets. The present individual was engaged in that business.—*Mr. Jackson in London Medical Gazette*, December 1840.

T. R. B.

—

56. *Poisoning by Ammonia, in the state of Vapour.*—On the 10th of June, 1840, at about three quarters past eleven o'clock in the evening, Dr. Souchard, of Batignolles, was suddenly summoned to visit M. A. Pietri, the pupil of a druggist in that place. This young man, whom many had seen a few hours previous, in perfect health, was now in the most imminent danger. One of those enormous stone bottles, known in commerce by the name of *bonbonnes*, and which contains about fifty pounds of the volatile alkali, had been delivered late in the evening at the shop. The druggist was doing duty as one of the National Guard, and it was too late to procure other assistance in order to carry it into the cellar. The heat of the room probably caused the ammonia to expand, and thus the bottle broke. Pietri slept in a small apartment opening into the shop, but he had scarcely been in bed before he experienced a violent constriction of the throat, and great difficulty of breathing. Unable to account for this, he arose for the purpose of procuring a drink of water, but as he entered the shop, the sense of suffocation increased, and he would probably have expired, had not a female servant been aroused by his plaintive cries. She succeeded, though not without risk to herself, in dragging him from the tainted air. It is supposed that he had been exposed to it about three quarters of an hour.

Dr. Souchard directed his immediate removal into the open air. His countenance was covered with red spots; a large quantity of bloody froth issued from the mouth and nose; the tongue was of a vivid red and appeared deprived of its epithelium, but in some places it was covered with a white mucus, resembling portions of a false membrane, and the cavity of the mouth had a similar appearance. The patient, who could articulate only with extreme difficulty, complained of a cutting pain in the throat, which soon extended to the chest; the respiration was very feeble and suffocation seemed impending. He experienced great thirst, but it was almost impossible to swallow anything, as the attempt caused violent coughing, and a mucous expectoration. The pulse was feeble, irregular and frequent, the eyes red, and the face burning to the touch. He was bled largely, with very great relief, and being removed to a bed, vinegar, diluted with water, was regularly administered. Although he swallowed at first with difficulty, yet its good effects were soon manifest in a diminution of the mucous rattle. Leeches were applied to the throat with success, and subsequently frictions, astringent gargles, enemas, and warm baths completed the cure. In forty-eight hours M. Pietri was out of danger, but for several days thereafter he laboured under all the symptoms of acute bronchitis, and he had complete aphonia for nearly a week; of all this, however, he perfectly recovered.

This is not by any means the only case in which dangerous and even fatal effects have followed from exposure to this violent irritant. M. Chevallier, in his comments, refers to no less than ten instances, and he has not included the whole that are on record.—*Annales D'Hygiene*, January 1841. T. R. B.

It was not contended, or if contended, the plea was abandoned, that this was a premature birth, since it was proved by Dr. Thomson, who delivered the mother, that the appellant was "a full grown birth." The question, therefore, was confined to the point of protracted gestation, and on this, the following testimony was presented.

For the pursuers, (plaintiff,) Dr. James Hamilton, Jun., Physician in Edinburgh, Professor of Midwifery in the University of Edinburgh, depones, that he thinks that ten calendar months is an unusually long period of gestation, but not by any means without precedent; that in the course of his practice, he has had occasion to know a very few cases of such protracted gestation, with regard to which he could entertain no doubt; that he has known one case of a patient passing eleven menstrual periods by seven days; that by calender months, the deponent means consecutive months, beginning at any one month in the year. Interrogated for the defenders, whether the number of cases which he has known, in which gestation was protracted to ten calender months, has, in his experience, been so great as one in a thousand? Depones certainly not. Interrogated, whether it may have been one out of two thousand, or three or four or five thousand; depones that it is impossible to answer this, because a person does not think of keeping a list. Interrogated, whether in computing the period of gestation, a medical man must not necessarily depend on the statements of the woman, as to the period from which conception is supposed to commence? Depones that the information obtained from the patient relates to the date of the last menstruation.

Dr. John Moir, Surgeon to the Lying in Hospital, Edinburgh, gave similar testimony in favour of prolongation of the period in a few cases.

For the Defenders. I will only quote the testimony of Dr. John Thatcher, Physician in Edinbrugh. He deposed, "that he had been in practice as an accoucheur for nearly thirty years, during which he had delivered above 10,000 patients; that gestation protracted beyond nine calendar months is a possible, but not a very probable circumstance. Interrogated, whether he believes in a gestation of ten months? Depones, that two such cases, perhaps, three have been reported to him; but that he considered these, and considers such case generally, as founded solely on miscalculation or misapprehension; that wherever the woman is of bad character, or has an interest to deceive, he would most assuredly ascribe the statement, that she has gone long beyond the ordinary period, to these circumstances. Interrogated, whether in judging accurately of the exact period of gestation, he is not obliged to depend entirely upon the statements of the woman, or at least to depend so much upon these statements, that no certain conclusion can be drawn independently of them? Depones, that in general, in respectable practice, certainly he does rely upon the statement of the woman, but that in the later months of pregnancy, if required, accurate and scientific examination could be made correctly, or nearly so, to ascertain its state of advancement, independent of any statement on the part of the mother, but that if no such examination be made, the woman's statements are the only guide; that women without any motive of deception, are frequently mistaken as to the period of gestation. Interrogated, whether the woman, when there is any unusual protraction, must not be aware of this fact. Depones, I think she unquestionably must."

As this was according to Lord Wynford, an "infamous case," the mother being of decidedly bad character, the House of Lords declined to support the doctrine of protracted gestation. T. R. B.

—

55. *Poisoning with Binoxalate of Potash.*—A female aged 20, took about an ounce of this, previously dissolved in hot water; about an hour and a half thereafter, she was found lying on the floor quite faint, having been previously very sick. As soon as the nature of the poison was discovered, four ounces of the cretaceous mixture were given, to neutralize the acid. She was now extremely depressed, the pulse very feeble, skin cold and clammy, with continued rigors affecting the whole body. She complained of a scalding sensation in the throat

and stomach, pain in the back, soreness of the eyes and dimness of vision. The conjunctivæ of both eyes were a good deal injected, and both pupils were dilated. She was wrapped up in warm blankets and bottles filled with hot water, were applied to her feet. She also took occasionally some ether and tincture of opium in camphor mixture. In about an hour, reaction occurred, with a hot skin, and quick and full pulse. The pain in the throat now extended to the abdomen, with tenderness on pressure. For this leeches were applied, followed by warm fomentations. The treatment proper for reducing inflammation was continued, and the next day she was much better. Sulphate of magnesia was prescribed to obviate the existing torpid state of the bowels; but it was necessary to exhibit this in small doses, as faintess recurred. She recovered in a few days.

This is probably the first case on record of poisoning with the binoxalate of potash. It is employed largely as a decolorizing agent by those who prepare straws for the manufacture of bonnets. The present individual was engaged in that business.—*Mr. Jackson in London Medical Gazette*, December 1840.

T. R. B.

—

56. *Poisoning by Ammonia, in the state of Vapour.*—On the 10th of June, 1840, at about three quarters past eleven o'clock in the evening, Dr. Souchard, of Batignolles, was suddenly summoned to visit M. A. Pietri, the pupil of a druggist in that place. This young man, whom many had seen a few hours previous, in perfect health, was now in the most imminent danger. One of those enormous stone bottles, known in commerce by the name of *bonbonnes*, and which contains about fifty pounds of the volatile alkali, had been delivered late in the evening at the shop. The druggist was doing duty as one of the National Guard, and it was too late to procure other assistance in order to carry it into the cellar. The heat of the room probably caused the ammonia to expand, and thus the bottle broke. Pietri slept in a small apartment opening into the shop, but he had scarcely been in bed before he experienced a violent constriction of the throat, and great difficulty of breathing. Unable to account for this, he arose for the purpose of procuring a drink of water, but as he entered the shop, the sense of suffocation increased, and he would probably have expired, had not a female servant been aroused by his plaintive cries. She succeeded, though not without risk to herself, in dragging him from the tainted air. It is supposed that he had been exposed to it about three quarters of an hour.

Dr. Souchard directed his immediate removal into the open air. His countenance was covered with red spots; a large quantity of bloody froth issued from the mouth and nose; the tongue was of a vivid red and appeared deprived of its epithelium, but in some places it was covered with a white mucus, resembling portions of a false membrane, and the cavity of the mouth had a similar appearance. The patient, who could articulate only with extreme difficulty, complained of a cutting pain in the throat, which soon extended to the chest; the respiration was very feeble and suffocation seemed impending. He experienced great thirst, but it was almost impossible to swallow anything, as the attempt caused violent coughing, and a mucous expectoration. The pulse was feeble, irregular and frequent, the eyes red, and the face burning to the touch. He was bled largely, with very great relief, and being removed to a bed, vinegar, diluted with water, was regularly administered. Although he swallowed at first with difficulty, yet its good effects were soon manifest in a diminution of the mucous rattle. Leeches were applied to the throat with success, and subsequently frictions, astringent gargles, enemas, and warm baths completed the cure. In forty-eight hours M. Pietri was out of danger, but for several days thereafter he laboured under all the symptoms of acute bronchitis, and he had complete aphonia for nearly a week; of all this, however, he perfectly recovered.

This is not by any means the only case in which dangerous and even fatal effects have followed from exposure to this violent irritant. M. Chevallier, in his comments, refers to no less than ten instances, and he has not included the whole that are on record.—*Annales D'Hygiene*, January 1841. T. R. B.

57. *Fracture of the Skull occurring during Labour.*—In our number for November 1837, p. 246, we gave the details of a case of this description, which occurred in the practice of Dr. Michaelis of Riel, and we are now able to add a second case recorded by Dr. SCHULTZEN of Insterberg, in *Casper's Wochenschrift*, Oct. 10, 1840. The particulars of this last case, which we extract from our valued cotemporary, the *B. & F. Med. Rev.* for January last, are as follow:—

"A strong, healthy, and corpulent woman, about forty years old, had already had five children. All of them had been large, and all the births difficult, though accomplished without artificial assistance; two of the children were born dead. The sixth pregnancy was passed through well, and parturition came on at the right time. The pains were severe, and the membranes ruptured, but the delivery did not make progress. After twenty-four hours the author found the pains severe, and that much water had passed away, but that no blood had appeared. The uterus felt hard, and was contracted strongly round the child. The latter had a transverse position; the head lay above at the left side of the uterus, the feet below and to the right, the right hip presenting. The child was alive. The os uteri was completely open, the vagina very much dilated, and the turning of the feet was easily accomplished. The pelvis was, during this operation, ascertained to be of normal dimensions. After the turning, the body of the child was quickly forced down to the aperture of the pelvis by the continued strong pains, but here the head stopped with both arms lying close beside it, and with the face directed backwards and to the right, till at last with a further increase of the pains, and with the assistance of traction of the feet and shoulders, the child was quickly expelled. It gave no signs of life, and notwithstanding long-continued endeavours were made, it could not be revived. It exhibited nothing whatever abnormal externally, except a sugillation on the right parietal bone as large as a half-florin. It weighed a pound and three quarters; its length was twenty-two inches and a half, the transverse diameter of the head three inches and three quarters, the long diameter four inches and three quarters, the breadth of the shoulders five inches. The bones of the head moved with great difficulty upon each other, and the anterior fontanelle was proportionally very small.

"On examining the head, after its external coverings were removed, there appeared an extravasation of blood on the right parietal bone, amounting to about half a drachm. Directly below this the parietal bone was pressed in at its middle, and fractured in the form of a star. The indentation was of a round form, about an inch in diameter, three lines deep, and completely retained its shape when the bones were separated from one another. When held against the light the bones seemed very vascular, and it was evident that the fracture extended through both the tables. On the dura mater there lay a coagulum of blood of the size of a sixpence, and below it one rather larger. Another of the same size was found below the cerebellum, and the whole of the brain and its membranes were unusually vascular.

There could be no doubt that the death of the child was the consequence of this injury of the head; and it was equally certain that the injury was the result of the difficult parturition, though no instrumental means were employed."

—

58. *On the Length and Strength of the Umbilical Cord at the full term of Pregnancy.* By Dr. NEGRIER.—A girl of bad character was accused of having strangled her child by means of the umbilical cord, before it was completely expelled from the uterus. As there was a difference of opinion amongst the medical men as to the possibility of the umbilical cord possessing sufficient strength or length for this purpose, Dr. Negrier performed a number of experiments, for the purpose of ascertaining the strength of the cord, and measured it in 166 cases to arrive at its average length.

Of the 166 cases, it was remarked that in 144 the umbilical cord floated free within the uterus; in 20 cases it was rolled around the neck of the child; in one it was round the shoulders; and in one between the thighs, the breech presenting in this case: 98 of the umbilical cords were not varicose, and 68 were varicose.

As to length, 28 were 17 inches long, 112 were from 17 to 25 1-2 inches long, and 26 above that length.

The resistance of the umbilical cords was ascertained by attaching weights to one end of the cord until it ruptured, the weights being always attached to the placentar extremity. About one-half of the cords were passed by their middle over a round bar, and weights attached till they gave way; the other half of the number were rolled one-and-a-half round the same bar, covered with linen, so as to bring it to the diameter of a child's neck, when it was found that these supported a greater weight than those over the plain bar. The varicose umbilical cords were ruptured with a lesser weight than the sound cords, and generally gave way at one of the varicose dilatations. The mean weight which these varicose cords supported before they gave way was 8 pounds Troy; the most resistant supported 14 pounds 7 ounces. The medium resistance of the non-varicose umbilical cords was 14 pounds 4 ounces Troy; but one cord required 25 pounds 3 ounces to rupture it.

Dr. Negrier next made a few experiments to ascertain what weights suspended round the neck of an adult would produce such a degree of compression as to cause unpleasant feelings or strangulation. A weight of 8 pounds was suspended to a cord passed once and a-half round the neck, the back of the neck being upwards. The respiration was rendered difficult, and the brain strongly congested in two minutes. Vertigo commenced soon afterwards. The respiration, however, could he continued with difficulty. When the face was placed upwards the effects of the congestion were more rapid; the respiration was much impeded, but was still possible; but Dr. Negrier thought that death would have resulted if this position was maintained for a quarter of an hour.

When the experiment was made with a weight of 13 pounds, and the face downwards, rapid congestion of all the vessels of the head took place; the eyes became injected, and filled with tears; the respiration was very laborious, but was still possible. It was, however, dangerous to continue the experiment for two minutes.

When the same experiment was repeated, but with the face looking upwards, the strangulation was almost complete. Respiration was so impeded that Dr. Negrier thinks death would have resulted in less than five minutes.

From these facts, he infers that the umbilical cord is both long enough and strong enough to produce strangulation in a new-born infant, by being twisted round its neck after the head is delivered. A force applied to a cord equal to 13 pounds would strangle an adult in five minutes, and a much lesser force would strangle a child.—*Ed. Med. and Surg. Journ.*, from *Annales d'Hygiene Publique*, Jan. 1841.

MEDICAL STATISTICS.

59. 1. *Abstract of the Glasgow Mortality Bill for* 1840. By Alexander Watt. Population estimated at 382,000.

Burials.—Total in the city and suburbs in 1840,	9541
Total in the city and suburbs in 1839,	8130
Increase of Burials in 1840,	1411
Births and Baptisms recorded.—Total in 1840,	3054
Total in 1839,	3048
Increase in 1840,	6

Monthly Record of Births and Baptisms.

Months 1840	Males	Females	Twins		Total Males	Total Females	Grand Total 1840	Grand Total 1839
			Males	Females				
January,	114	92	2		116	92	208	211
February,	133	125		6	133	131	264	254
March,	127	110	1	1	128	111	239	321
April,	158	132	4	2	162	134	296	264
May,	141	132	2	4	143	136	279	181
June,	118	105		4	118	109	227	316
July,	142	132	10	2	152	134	286	263
August,	146	127			146	127	273	251
September,	110	116	2		112	116	228	222
October,	148	137	1	1	149	138	287	200
November,	129	122	1	1	130	123	253	290
December,	118	92	3	1	121	93	214	275
Totals in 1840,	1584	1422	26	22	1610	1444	3054	3048
Totals in 1839,	1580	1432	21	15	1601	1447	3048	

Marriages.—Total proclamations of marriages, including three irregular marriages, in 1840, - - - - - - - - - 2518
Total proclamations, including two irregular ones, in 1839, - - 2443

Increase in 1840, - - - - - - - - - - - 105

Remarks.—The stillborn children and premature births amounted to 720. These being deducted from the number of burials, show the total amount of deaths to be 8821. The burials to the estimated population are therefore as 1 to 29.556, or 3.283 per cent.; and the deaths 1 to 31.969 or 3.128 per cent. The registration of births and baptisms is extremely defective. Without the aid of a legislative enactment, little hope can be entertained that the evil will be remedied. The same remark applies to the table of marriages; the average amount of marriages during five years, are, to the mean estimated population of these five years, as 1 to 122.428, or 0.816 per cent. *From Henry Marshall, M.D., Deputy Inspector General of Hospitals, Edinburgh.* T. R. B.

60. *Statistics of the Vienna Midwifery Institution.*—There were delivered in the Vienna Midwifery Institution, within a period of 23 years, 29,891 women. The number of twins was 392, and of triple births, 6. Presentations of the face 258, of the breech 519, of the foot 250. Turning was performed in 151 cases; instrumental deliveries 114; head perforated 51 cases.—*Lancet*, January 9, 1841.

FOREIGN CORRESPONDENCE.

61. *New operations for the radical cure of Stuttering—new operation for cure of Myopia—Sulphate of Quinine in large doses for the cure of Intermittent.*—[Extract of letter from Dr. E. J. Lewis, to Dr. J. K. Mitchell.] During the last two or three weeks I have seen many patients operated on, for the radical cure of stuttering, but in most of them, with very unsatisfactory results, and I have come to the conclusiom, that the accounts of the wonderful success attending this operation, as bruited forth and published to the world, by some charlatans and mistaken enthusiasts, are not to be relied upon as genuine statements of this operation. That this operation, or some one closely analogous to it, will be admited into the annals of judicious surgery, there is no doubt; but it is yet in its infancy, and will require much study to suit it to the different modifications and varieties

of this imperfection. Although Amussat has operated frequently, and presented this subject at some length before the *Académie*, as also exhibited several cases, said to have been entirely cured by the section of the genio-glossi, still there is a doubt as to the correctness of his reports, and he has been accused by some very respectable surgeons of charlatanism, even publicly through the medium of the medical journals. I have been present during several of his operations, and must confess to have never been entirely satisfied of the much boasted improvement in the speech of his patients, immediately after the division of the muscles, and I have never, but in one or two cases, been fortunate enough to meet with those operated upon, after the lapse of a short time, and in these two, the operation did not appear so flattering as I had at first supposed. But little has yet been published on the matter except a few straggling accounts met with occasionally in the Medical Gazettes.

A new idea is now gaining ground in reference to the cause and surgical treatment of myopia as it is presented to the Académie by Guérin. He supposes that there are two kinds of this affection, namely, myopie mécanique or musculaire, and myopie optique or oculaire, the former resulting as strabismus in the primitive, shortening or active retraction of the muscles of the eye. The diagnosis of these two forms, requires some nicety of examination to prevent the injurious application of the surgical means proposed.

The characters of myopie mécanique, are somewhat similar to those furnished by strabism mécanique, besides a slight deviation of the eye from its natural axis, the form of the globe oculaire is a little changed, and the movements of the organ restricted. The anterior half of the globe of the eye is more conical, the cornea representing a segment of a sphere, with a greater convexity than natural; the sides of the globe are depressed and stretched in the direction of the muscles that are retracted. The movements as before stated are affected, being more or less circumscribed either upwards or downwards, internally or externally, according to the contraction of the different muscles affected. The active treatment of myopie mécanique, you will have already anticipated, consists in the division of the muscles concerned in producing this unnatural state of the eye. Guérin states that he has operated with marked success in several cases, and of course his statements are worthy of all credit.

At the Hospital de la Pitié, the service of Piorry, a professor in the medical school, I have seen the sulphate of quinia used in a wholesale manner, for the treatment of intermittent fevers, which this gentleman considers to be caused by and dependent upon enlargement of the spleen, which hyperthophy may be produced by some external or internal agent. But he asserts, that the fever cannot exist without the enlargement and derangement of this viscus, although the spleen may be hypertrophied and engorged for a time without producing the fever. This theory of course has many disciples, and many enemies. He makes use of this medicine in the enormous doses of fifty and one hundred grains; I have often very satisfactorily percussed the spleen, and marked its limits most accurately before the administration of this medicine in the above doses, and in the short space of twenty minutes after its exhibition, I have seen this organ very perceptibly diminished in its whole circumference, and the paroxysms of the fever arrested or palliated in an incredibly short time.

Paris, March 29th, 1841.

—

62. *Medical Schools of Berlin and Vienna.*—[Extract of a letter from Dr. T. H. Watts, of England, to Dr. Pliny Earle.]—The schools of Berlin and Vienna are the best in Germany, and the superior characteristic of their style of teaching is, *much specialty of study*. They have courses of lectures and clinics on the diseases of the eye, the maladies of children, the disorders of women, midwifery, clinics, and polyclinics. I have derived immense advantage from my tour through their numerous schools. I was about five months in Berlin, attending the great Jungken on the eye, and Rust and Dieffenbach on surgery; but at Vienna alone I remained nearly ten months, and left it with deep regret, for it has the first practical school in the world—not for the young student

or mere tyro in the profession, but for him whose mind is already well prepared. It is immeasurably superior to all others for morbid anatomy, eye diseases, and midwifery. The Civil Hospital alone counts about forty thousand admissions yearly; there are upwards of three thousand choice autopsies every twelve months, and these are open to the public. The professor of morbid anatomy and his assistant are always in the dead house at fixed hours, at morning and noon; and have the exclusive right, for themselves and their class, to open the bodies, and nowhere have I seen this part of medical inquiry made with equal care and exactness. There is still more liberality in the medical department in Vienna, than even in Paris, and foreigners are admitted scot free. Besides the general medical and surgical clinics, there are two excellent clinical courses on diseases of the eye. The one is given in German by the immortal Jaëger, in the Military Hospital, and the other in the Latin tongue, by Rosas, in the great Civil Sick-house. By a happy method of centralization the asylums for disease in Vienna are all accumulated in the same quarter of the suburbs.

The other universities I visited in Germany were in smaller cities, and as I travelled for bare practical information, I never prolonged my stay in one of them above a week or twelve days, for I studied to keep mostly to the grand metropolitan sites. I have always found the large metropolis superior for medical inquiry, except in Italy, where Rome stands certainly the lowest as a school of medicine. It is even excelled by miserable Parma."

Paris, December 13, 1840.

MISCELLANEOUS.

Necrology.—The foreign Journals for the past three months, announce the deaths of several very distinguished ornaments of the profession. Among these we may notice, Dr. Hope, author of a valuable work on the diseases of the Heart, and assistant physician to St. George's Hospital; Dr. Ryan, the author of several works on Midwifery, &c., and formerly editor of the *London Medical and Surgical Journal;* Esquirol, chief physician to the Hôspice de Charenton, and author of a most valuable Treatise on Insanity, and other works; Landrè Beauvais, former Dean of the Faculty of Medicine; and Mad. Boivin, well known, both as a successful writer and practitioner of midwifery. She was a Doctor in medicine, for many years Superintendent of the Maternité at Paris, and a member of most of the learned societies of Europe.

Biography of Dupuytren.—A highly interesting biography of Dupuytren, by Professor Cruveilhier, has recently been published in Paris.

Hôpital de Charenton.—M. Foville has been appointed physician in chief to this hospital, in the place of Esquirol, recently deceased.

AMERICAN INTELLIGENCE.

Dysphagia from Scrofulous degeneration of the Œsophagus of five years standing, cured. By Ezra P. Bennett, M. D., Danbury, Ct.—The subject of this case was a young lady by the name of Mary Edwards, from the town of Sherman, in the north part of this county. She first consulted me in November, 1840. She is 19 years of age, of delicate slender form, with sallow countenance, black eyes and hair. Her general health was bad; the menses were irregular, and she complained of lassitude and debility. She said that about five years since she began to experience a little difficulty in swallowing, which had gradually but steadily increased until the present time. She could not swallow any substance as large as a common pill, without dividing it into two or three pieces, and she then swallowed it with difficulty. The pharynx was dilated upon each side into pouches of considerable size, so that when she swallows fluids, they at first appear to pass into a cavity, and then with a gurgling noise pass down the œsophagus. She complained of no pain in the throat, except after exposure to cold. After eating there was a smarting sensation, which, however, soon subsided. I attempted to pass a bougie into the throat, but was wholly unable to do so, although I made the attempt at different times. Although the instrument was of small size (not being larger than a medium sized catheter,) I could by no possible means make it pass the stricture; it would pass down about five inches from the incisor teeth and stop abruptly. If it was pressed upon, or rotated, it passed immediately into the glottis, and had to be immediately withdrawn to prevent suffocation. To satisfy myself that it really entered the rima glottidis I substituted a catheter for a bougie, which, when introduced in the same manner, permitted her to respire through it, which removed all doubt upon this point, and proved most conclusively that the instrument was in the trachea. From her general appearance, and from the history of her case, I came to the conclusion that the disease was of a scrofulous character, and that the difficulty of deglutition depended upon a scrofulous degeneration of the coats of the œsophagus. Having come to this conclusion, I commenced a course of medication in accordance with these views. I gave her a pill of conium, ipecac. and blue mass, three times a day before eating, also 20 drops of the iodide of iron three times a day half an hour after eating, directing at the same time the neck to be rubbed with iodine ointment morning and evening. Having continued this course of treatment for a few weeks I again attempted to pass a bougie into the throat, but was as before unsuccessful. Foiled in my repeated attempts to introduce a bougie, I began almost to despair of doing her any good; but I resolved to make one more trial, and that with a different instrument. I procured a flexible piece of whalebone, to the end of which I attached, by means of a screw, a small but perfectly smooth ball of ivory; the size of the ball was about that of an ordinary sized pea. Armed with my instrument, I again

returned to my task, and soon had the satisfaction of passing it through the stricture, though not without using considerable force. The passage appeared to be hard, indurated, and quite rough and knotty. After the instrument was withdrawn, she spit up some blood and complained much of pain in the stomach, which lasted for two days, and was so severe as to require full and repeated doses of morphine to subdue it. As soon as the soreness of the throat had subsided, I again introduced the instrument. By pursuing this course for four or five weeks, I found that the instrument passed with ease, and I therefore substituted a larger one, which I gradually increased in size as the passage dilated, by dipping it in melted wax. In this way the dilatation was very gradual and almost without pain, and in four months from the commencement of the treatment my patient left town in good health and fine spirits. The induration and raggedness of the œsophagus has entirely disappeared, the pharynx has regained its usual size, and she swallows with the utmost ease and facility. The blue mass and ipecac. was continued only for a few weeks; but the conium and iodine were continued through the whole course of treatment, with an occasional intermission of a few days. The instrument used in this case I think better adapted to overcome such difficulties than a bougie, as it has no point, and will not therefore be obstructed by the ragged and uneven surface of the œsophagus. Neither will it so easily pass into the glottis, and being more firm, it can more readily be guided into the tube, and when there can be pressed upon with more force and precision. I do not think that in this case I should have ever succeeded in passing a bougie.

—

Case of Congenital hypertrophy of the upper eyelids, and mucous membrance of the upper lip, with an inversion of the eyelashes. By H. H. Toland, M. D., of Columbia, S. C.—In the spring of 1838, a male slave, ætat. 22, the property of Dr. S., was placed under my care, who had at birth an unusual fulness of the upper eyelids, produced by an unnatural development of the skin and subcutaneous cellular tissue; accompanied by an inversion of the eyelashes, and an almost entire want of control over the motions of the lids. The entropium had produced, from the irritation that had been so long kept up, an entire opacity of the cornea of the right eye, and a partial one of that of the left. If the eyes had been in a healthy condition, he could not have had perfect vision, in consequence of the inability to separate the lids.

The upper lip seemed as if it were partially everted, and the mucous membrane projected an inch below its junction with the skin, and covered or hung over a part of the under lip. Being in constant pain from the inflamed state of the eyes, and without value, we determined to make an effort not only to remove the entropium, but also to improve his appearance.

A portion of the skin of the upper lid of the right eye, was taken up between the fore-finger and the thumb, so as to evert the eyelashes, and removed with a scalpel, from the external to the internal angle of the eye, leaving a wound of a semilunar shape. The portion of integument excised did not exceed an inch in width in the centre, and diminished gradually to the extremities. After the removal of the skin, a large quantity of condensed lamellated cellular substance presented, and was removed. The wound was closed by the interrupted suture, the points being sufficiently numerous to bring the edges in direct contact.

Considerable inflammation followed the operation, but soon yielded to purgatives, with the constant application of warm water to the eye during the day, and a poultice of bread and water at night. It probably depended both on the distension of the remaining integuments of the part, as well as the number of ligatures that were found necessary to bring the edges of the wound in contact.

The ligatures were removed on the fifth day, the wound having almost entirely healed.

In a week the same operation was performed on the left eye, with a similar result. The appendage to the upper lip was also removed at the same time with a scalpel, and found to consist of the mucous membrane very much thickened, but not otherwise altered in structure. The quantity of cellular substance was increased considerably, and the labial glands somewhat enlarged. The wound was close by the interrupted suture, and united readily.

The opacity of the cornea of the eye in which it was partial soon disappeared, and diminished slowly in the other. His sight is now good. The entropium has not returned; and the deformity produced by the unnatural state of the lip is removed.

This case of entropium is the more interesting, as it was congenital, produced by the hypertrophy of the eyelids, accompanied by a similar affection of the upper lip.

He has perfect control over the eyelids, although the margins are almost in contact with the eyebrows. The mother of the boy, the subject of the affection under consideration, was at the time of his birth the property of a physician, who entertains no doubt as to the difficulty being congenital.

A few days ago, now almost two years since the operation was performed, he was perfectly well, and is as valuable as any negro on the plantation to which he belongs.

An Essay on the beneficial results of Statistical Inquiries, in their application to Charleston, tracing the increased mortality to Quacks and Quackery. Dr. Thos. M. Logan read before the Charleston Apprentices' Society in May, 1841, an Essay, of which the above is the title, and the purport of which is similar to the one by Dr. Samuel Cartwright of Natchez, an extract from which was inserted in the January No., 1841, of the American Journal of the Med. Sciences. In the latter article the result of the empirical was contrasted with that of the regular practice of physic in Natchez; and to this article Dr. Logan acknowledges himself indebted both for the argument and plan, as well as idea of his own investigation as to Charleston. It seems that it was the fortune of Dr. L. to publish in the July No. for 1836, of the Southern Literary Journal, some remarks "on the climate and health of Charleston," tending to prove the *then* increasing salubrity of that city, and its advancement, pari passu, with other prosperous cities, in the social ameliorations and blessings of long life, which obtain in other well regulated and enlightened communities. Since that period an opposite state of things has taken place; not only has the population sensibly diminished, and the mortality alarmingly increased; but the laws which encouraged sciences and protected and guarded the citizens have been annulled, and a murderous set of quacks and empirics turned loose upon the credulous public. In such a state of things, Dr. L. felt it to be incumbent on him, inasmuch as he was among the first to felicitate the inhabitants concerning their advancement in civilization in 1836, to sound the tocsin of alarm, and to warn them now of the fatal change which has taken place in the medical police of the city, and arouse them from their supposed security and immunity. After a copious disquisition to prove the correctness of the proposition, with which he

starts, and which has been recognized by medical men, wherever the light of knowledge has penetrated: viz. "The experience of the world has demonstrated that in the degree in which a nation advances in civilization and prosperity, so is the mortality diminished: that whenever a people enjoy a high degree of civilization, of rational freedom, and of moral dignity, there also will a greater number of individuals reap the full harvest of their years:"—Dr. L. proceeds to point out the causes which have induced such happy results. Among these causes he particularly mentioned the improvements in the cleansing, draining and ventilation of towns, cities; and in the general economy of hospitals; as well as the common adoption of a rational treatment of diseases, and particularly of the *eclectic* plan, which reflects so much honour on the enlightened and unbiassed members of a liberal profession. These *particular* causes chiefly affect disease already formed, and when happily brought to bear upon it, promote a favourable termination. More *general* causes also act on the entire mass of people, and operate on the prevention of disease. Among the most efficient of these latter, he mentioned the increase of commercial and agricultural industry, which has multiplied the comforts of the lower classes, and has enabled them to procure more spacious dwellings, more frequent changes of clothes, and more abundant and more wholesome food; insomuch that the average mortality and health of every nation are mainly determined by the degree in which its government has encouraged these pursuits, or has checked their free course. He then goes on to remark, "If political and moral circumstances then actually possess so preponderant an influence on the duration of man's life—on the prevention as well as production of disease, and on the guidance of its fatality, it is specially incumbent on the members of the medical profession, the proper guardians of the public health, individually and collectively to watch over their sacred trust—to report from time to time the result of their observations and discoveries, and to contribute their best efforts to prevent the useless waste of life."

"Fully impressed with the importance of these views and considerations, we undertook in some previous observations, published in the July No. for 1836, of the Southern Literary Journal, to point out to our fellow-citizens the happy fact that they were then in possession of a medical police, by whose instrumentality, in connection with other favourable circumstances, they might calculate with certainty on as great an average longevity, as the inhabitants of any of the most civilized portion of the globe. We showed that Charleston was one of the healthiest cities in the world, that she was possessed of a bland and benign climate, and that she was advancing pari passu, with other prosperous cities in the railroad track of civilization and social amelioration. These positions were sustained, supported and proved by facts deduced from accurate statistical observations derived from undeniable authority. We felicitated ourselves upon the improvements which were then in the course of introduction among us,—showed that this onward course was in accordance with similar observations which obtain in other portions of the civilized world; and with heart-bounding pride felt the conclusion to be fair, that, inasmuch as our own Charleston had improved as to salubrity, in a greater comparative ratio than many other reputedly healthy cities, so in a corresponding degree must our intellectual, moral and medical condition have been advanced.

"However just, satifactory and consolatory were the opinions, reflections and anticipations indulged in at that happy era in our existence, it is nevertheless true, lamentably true, that we have lived to witness the fallacy of all human reason, and to acknowledge that we have fallen from our high and palmy state, and are now retrograding rapidly into a primitive condition of semi-barbarism and credulity. In 1838, the legislators of our enlighted republic, in the full light of the 19th century, with the experience of ages before them, and at a period in the world's history of unexampled advancement in civilization, thought fit in their supreme wisdom, on the strength of the most illogical absurdities, to rescind those wise, salutary, and time-honoured laws, created by the wisdom of our forefathers for the protection of the Science of Medicine, and the defence of the people against murderous quacks and empiricisms of all kinds. Our rulers

cried 'havoc, and let slip the dogs of war.' Previous to this, however, covert operations had been commenced by certain pretended reformers in medicine—Practitioners of steam and Botanicals, who evaded the then existing laws by never openly charging their patients with bills. These worthies and their coadjutors were unwaried in their exertions, not only to prejudice the public against most of the medicines which physicians employed, calling them poisons; but they attempted, and, with shame I say it, succeeded, in too many instances, in destroying all confidence in physicians themselves. Many a good citizen, who owed his life to the scientific practice of medicine, was not only by these means alienated from it; but, infused with an "esprit du corps," inspired by his "Family Rights," now evinces his gratitude to his former physician by the violence of apostasy and the clamour of his opposition. "Death, which no human means can avert, and which, from the very nature of the tenure of life, must occur from curable as well as incurable diseases, are artfully attributed to the lancet, calomel, or poison; while the more numerous cases, which recover under the very same treatment, are entirely overlooked. The silence of the grave reigns over the many remediable cases sacrificed to steam and No. 6; but the welkin is made to ring with every case which escapes under a scalding, or in spite of it. But let us look to facts. It was in 1836, just before the appearance of the cholera,—a disease which forms an important page in the history of the world, not exceeded in mortality by the Black Death of the 14th century,—I say, it was just before the appearance of the cholera in Charleston, that we made known the results of our observations, attesting the salubrity of our city, and its rank in point of mortality with the healthiest cities in the world. Our calculations were then brought up to 1836, when 1172 deaths, 392 of which were by cholera, yielding a proportion of nearly 1 in 26 inhabitants, occurred. This unprecedented mortality ought to render 1836 an isolated year, apart from all connected claims of calculations and catenated reasoning; and we shall therefore pass it by with one remark: 'the reformers commenced their operations from this date.' Four years have elapsed since then, and we have now some data on which to base our computations. The aggregate number of deaths which have occurred since empirics divided the practice of medicine with the regular physicians, in the last four years, 1837, '38, '39, '40, amount to 3300; giving an average annual mortality of 825, or 1 in 36 inhabitants per annum. While the aggregate number for the four preceding years, (omitting 1836, the Cholera year,) viz: 1835, '34, '33, '32, is only 2458 deaths, yielding a proportion of 614 per annum, or 1 in 49. Thus if we deduct the aggregate number of deaths previous to 1836, the year memorable for the invasion of the Botanicals, from the aggregate number since that period, we will find that the reformation in the practice of medicine has reformed in four years no less than 842 souls out of existence, or 210½ on an average per annum. And let it be remarked here, too, that this is but a very moderate estimate of the increased amount of proportionate mortality for the last four years, inasmuch as the population of Charleston has been sensibly diminishing for several years past: the last census shows a population of but 29,963, whilst our calculations are based upon the old computation of 30,289 inhabitants. But it may be argued that the increased mortality of the last four years is attributable to the greater number of strangers who have lately removed hither, and who have had to undergo that peculiar change called acclimation. It may also be urged that the comparatively small mortality of the first period of four years might be owing to a greater proportional number of citizens leaving town during the sickly months, than during the second period of four years; or, again, that the great ravages of the Strangers' fever, of late years, alone accounts for the increased mortality. Plausible as these objections may appear at first glance, a little reflection will expose their fallacy,—in fact a voice from the cemetery laughs such reasoning to scorn. It is well known that the fever of acclamation, or the strangers' fever, never occurs before the last of July, (there was one exception to this, and that was in June, 1832, when 5 persons only died of the fever before July,) or beginning of August; but that our vernal remittents, intermittents, and country fevers, to which our inhabitants, strictly so called, are

peculiarly liable, occur in the months of May and June, when the town is most crowded with citizens, returning from the now sickly country, to take up their abode either for the summer, or preparatory to going to the north. It is likewise well known that with the increase of the facilities for travelling north, the number of travellers annually increases; and none who can possibly get away before July or August, remain to run the hazard of acclimation. Thus it appears that no persons fly from town in order to avoid sickness in the months of May and June; but that the country people, the peculiar subjects to the diseases of these two months, and among whom we find the chief advocates of the Botanical practice, are crowding into the city. Now why does the voice from the burial-ground cry shame! shame! unto us? It is because the total number of dead bodies conveyed there during the months of May and June of the four years preceding 1836 was only 372; while the number carried thither in the same months for the four last years amounts to 496. Taking then these two healthy months in the city, as best calculated to test the success of the empirical practice, being the months when steam-doctors are most popular, and are most frequently called in; and deducting the aggregate number of deaths in these months for the first period of four years, from the similar aggregate of the last period of four years, we will find that 124 individuals have died in these months over and above the number which did die before public confidence was shaken in the legitimate practitioners of the medical art. To charge the increased mortality to the present regular physicians, would avail empiricism nothing, unless it could blot out from the records of the city the diminished mortality previous to 1836, when the hydra of quackery first fastened its poisoned fangs into the credulity of the people. The present physicians drink, nay, drink deeper, from the same Pierian source of science that those of a former day drank from. To doubt the accuracy of the bills of mortality would be equally futile, because although these registers may be occasionally faulty, yet they are as fair for one side of the question as the other, and compared with each other through a series of years, certainly afford some approximation to the truth. It is to be regretted, however, that no account is taken by our Board of Health of the number of births in the city, and that no more effort is made to improve the actual manner of ascertaining the mode of death of every individual, as well as the name of the last medical attendant. Under an improved arrangement, their reports might prove in a high degree auxiliary to the medical sciences, and to political philosophy. The important fact, then, that since the sanction and introduction of quackery and empiricism of all kinds by the legislators, the mortality of the city of Charleston, the Emporium of the South, has increased in a frightful proportion, stands indelibly recorded—a disgrace to our country,—a blot upon the enlightened age in which we live, *never to be effaced.*"

Dr. L. next took occasion to warn the young apprentices and others of the rising generation against the pernicious and too common practice of using patent medicines, or listening to the advice of empirics. He pointed out the difference between the empiric, who had a remedy ready-made for every disease, and the philosophic physician, who cautiously imitated and excited with his remedies, such operations as nature is observed to excite as a means of restoration, and which, when inopportunely provoked, are far from being curative in their operation. Finally, he deprecated the many attempts which were used to compromise and undersell the services of the divine art of medicine; and relied upon the ethical followers of his science to unite their voice with his in discountenancing every member of their liberal profession, who would, under whatsoever pretence, keep the general public as well as the profession in ignorance of any art or means accidentally or otherwise discovered of alleviating human suffering or prolonging human life. L. C. K.

Cathartics in Retention of the Placenta.—Dr. Thos. H. Todd, of Starkville, Miss., has forwarded to us some observations on the utility of purgatives, as a means of promoting the expulsion of retained placenta, and communicates the two following cases in which he resorted to that remedy with success.

Case 1. "A woman, the property of Richard Ellett, aged 28, was delivered of a living, and *first* child. The labour was tedious, and the patient much exhausted in consequence. After the child was removed I examined the parietes of the abdomen, and found that the uterus had contracted firmly; but, the tumour was high up in the right side. As there was no hemorrhage, I used friction, and pulled gently upon the cord only, for the first few hours. I then passed my finger along the cord to ascertain if the placenta had been detached and thrown into the vagina; but it had not, as I was unable to touch any part of the placenta. I then administered the ergot, with the view of exciting uterine contraction, and thereby relieve the patient; but in this I was disappointed, as the ergot produced no effect. After this failure I thought it best to introduce the hand and remove the after-birth, but here again I was doomed to meet another disappointment; as the soft parts had, by this time, so much contracted, that any attempt to introduce the hand, however slow and firm it might be, entirely failed. I now resolved to give a dose of ol. ricini, as the bowels had not been moved since the labour began, and to wait the result. In due time, however, the oil acted, and with the action of the bowels the pains returned, and threw the secundines into the vagina, where the mass was readily seized, and removed with the hand, twelve hours after the birth of the child."

Case 2. "Prissa, servant of Mr. Hines, was delivered of a still-born child near the sixth or seventh month (in Sept. 1839). On examination twelve hours after delivery I found that the cord had been broken off in attempts to remove the after-birth. The parts contracted so much that the hand could not be introduced; and the ergot had been given, but produced no effect. As the bowels had not been moved, I advised that a dose of castor oil be given, and await its operation, as there were no unpleasant symptoms in the case. By evening the oil had operated two or three times, without producing any pain whatever. I now made an examination, but found that the placenta had not advanced any. As the patient was resting well, we resolved to leave the case for the night to nature. At ten o'clock next morning we gave a dose of Cooke's pills, containing equal parts of cal., rhei, and aloes. At 6 o'clock, P. M., I was sent for in great haste; the woman was in great pain, and her mistress much alarmed. Soon after my arrival the pills acted upon the bowels; and with the first evacuation the placenta was expelled, forty-six hours after the birth of the child."

The well known sympathy between the rectum and uterus, explains the action of purgatives in exciting the uterus to expel its contents.

Excision of the Elbow-joint.—Dr. Gordon Buck, of New York, relates in our contemporary, the *New York Med. and Surg. Journal*, (April, 1841.) a case of abscess of the right elbow-joint with disease of the bones, in which he excised the joint. At the date of the last report the patient was doing well.

The first operation of this description, in this country, was, we believe, performed by our friend, Dr. Thomas Harris, in June, 1835, and an account of it was published in the No. of this Journal for Feb., 1837. Our friend, Dr. J. C. Warren, of Boston, has also, we learn, performed this operation.

Rhatany in the Treatment of Fissure of the Anus, Prolapsus Ani, and Leucorrhœa.—Dr. W. P. Johnson relates, in the *Medical Examiner*, (May 8, 1841,) two cases of fissure of the anus, sucessfully treated by Rhatany as recommended by Bretonneau;* and Dr. J. B. Biddle records, in the same Journal, a case of prolapsus ani and one of leucorrhœa, cured, by injections of the same article. Dr. J. and B., however, employ a preparation made according to the following formula, which they conceive to be a far neater one and more efficacious than that used by Trousseau. ℞. pulv. rad. kramer. ℥ss.; aq. font. ℥vj. Put the root into a displacement vessel, or glass funnel, with a cork fitted in the bottom; pour the liquor over it, and macerate for an hour or two; withdraw the cork, and repass the liquid two or three times; then displace with an additional quantity of water until ℥vj. has passed. Prepared in this way, each ounce will

* See the No. of this Journal for April, 1841, p. 519

contain from 25 to 28 grs. of extract. This formula is furnished by Mr. T. Oliver, Druggist.

—

Case of Triplets.—A very interesting case of Triplets is recorded in the *Western Journal of Medicine and Surgery*, (April, 1841,) by Dr. A. H. Buchanan, of Columbia, Tenn. The mother was a delicate woman, aged about 35, and had had four children previously. The father is a stout, healthy man of middle age. The three children were all well formed, and were hearty and living, when the account was written, about six weeks after birth. The child first born was a male, weighing seven pounds; the second a male, weighing four pounds; the third a female, weighing five pounds; making in all sixteen pounds. The placenta was single, and very large, being by actual measurement twelve inches across in one direction, and fourteen in another, and two inches thick in the centre; it presented three divisions upon its fœtal surface. Each child had distinct membranes and liquor amnii, and there were three distinct cords.

—

Smallpox in Philadelphia—Ectrotic Treatment.—Some alarm has existed in Philadelphia in relation to smallpox, which the real state of the case hardly justifies.

The number of deaths from smallpox since the 23d January, as shown by the reports of the board of health, is as follows.

Week ending January 30		9	Week ending April 17		3
" February 6		1	" " 24		6
" " 13		1	" May 1		7
" " 20		3	" " 8		7
" " 27		3	" " 15		1
" March 6		4	" " 22		4
" " 13		8	" " 29		4
" " 20		8	" June 5		1
" " 27		7	" " 12		5
" April 3		4	" " 19		
" " 10		4			

Our colaborator, Dr. Thomas Stewardson, physician to the Philadelphia Smallpox Hospital, informs us that there were admitted into that institution during the month of January, 3 patients, February, 16, March, 20, April, 19, May, 15, and that from the 8th to the 24th of June, only one patient. The following table, with which he has furnished us, exhibits the number of admissions during each week from the 1st of February to the 1st of June.

Week ending June 7		5	Week ending April 11		6
" " 14		2	" " 18		1
" " 21		5	" " 25		8
" " 28		4	" May 2		7
" March 7		6	" " 9		4
" " 14		9	" " 16		2
" " 21		0	" " 23		5
" " 28		4	" " 30		1
" April 4		1			

It is thus evident that the disease has never prevailed to any great extent, and that it is at present on the decline.

Dr. Stewardson also informs us that he has tried the ectrotic treatment of smallpox, to a limited extent, in several of the patients in the hospital, and the results are entirely confirmatory of those obtained by MM. Briquet, Gariel, &c., as noticed in a preceding part of this No., (see pp. 188-191.) He applied mercurial ointment to one half of the face of a patient, leaving the remainder untouched. The pustules, on the half of the face to which the mercurial ointment was applied, aborted and left no marks. Those on the other half ran their regular course, and left marks which will doubtless remain as deep pits.

In another patient Dr. Stewardson covered one half the face with mercurial ointment, and the other half with simple cerate. The result was the same as in the first case, the simple cerate producing no effect.

In every case in which Dr. Stewardson applied the mercurial ointment, before the fifth day of the eruption, the pustules, whether on the face or limbs, to which the application was made, aborted. Dr. Stewardson did not, in any case, apply the ointment over the whole surface; he proposes, however, hereafter to do so should a suitable case present itself.

Annual Report of the Governors of the New York Hospital, made to the Legislature, February 23, 1841.

Number remaining at the close of the year 1839 - - -	174
Admitted during 1840 - - - - - - - - - -	1797
Total	1971

Of this number there have been

Cured - - - - - -	1317
Relieved - - - - -	111
Discharged at their own request	120
Eloped or discharged as disorderly	45
Discharged as improper objects	18
Died - - - - - -	173
Remaining December 31, 1840 -	187
Total	1971

A new wing to the hospital has been built 93 feet long, 63 wide, and three stories high, exclusive of the basement. It will be completed on or before the 1st of October. "The governors have also fitted up a building for post mortem examinations, and for the delivery of lectures on the facts thus disclosed."

Bloomingdale Asylum.

Remaining on the 31st of December, 1839 - - -	126	
Admitted during 1840 - - - - - - - - -	113	
		239
Of these there were cured - - - - - - -	60	
Discharged much improved - -	25	
Discharged at the request of friends -	8	
Eloped from the premises - - -	1	
Died December 31, 1840 - - -	131	
		239

The system of moral treatment, combining recreation and employment, continues to prove highly serviceable. T. R. B.

Annual Report of the Inspectors of the Mount Pleasant State Prison (Sing Sing) to the Legislature of the State of New York, January 13, 1841.

Number of convicts on the 30th September, 1839, males	762	
females	43	805
Received during the year ending September 30, 1840, males	218	
Females (including 10 from Auburn)	36	254
Total		1059

	Males.	Females.	
Discharged by expiration of sentence - -	178	14	192
" by pardon - - - - -	18	4	22
" by death (including one drowned)	16	1	17
Sent to the Lunatic Asylum - - - -	1		1
		Total	232
Remaining September 30, 1840 - - Males	767		
Females	60		827
		Total	1059

Dr. Belcher, physician and surgeon to the prison, reports the following as the *daily* average number who have received aid during the year as above.

	Hospital Cases.	No. of Prescriptions.	Deaths.
1839, October - -	14	42	1
" November - -	15	33	1
" December - -	16	34	1
1840, January - -	16	37	1
" February - -	12	41	1
" March - -	14	39	1
" April - - -	14	48	2
" May - - -	10	51	2
" June - - -	11	49	2
" July - - -	12	48	0
" August - -	18	60	2
" September - -	17	48	2
			Total 16

The diseases most frequently occurring, have been dysentery, diarrhœa and catarrh, with a long train of chronic affections. There have been several cases of "paroxysmal aberration of mind," all of which have been successfully managed except one, who was removed to the Asylum.

Of the males the causes of death were as follows:

Consumption - - - - - -	5	
Dropsy - - - - - -	1	
Pneumonia typhoides - - - -	1	
Gastritis - - - - - -	1	
Scrofula of long standing - - -	2	
Debility - - - - - -	1	
Sudden prostration (deranged six months)	1	
Drowned - - - - - -	1	
Adhesion of the lungs - - - -	1	
Suddenly of asthma - - - -	1	
Chronic diarrhœa - - - - -	1	16
One female of dropsy - - - -	1	1
		Total 17

The female prison is situated on dry and elevated ground, and its inmates are generally more healthy than the males. T. R. B.

Annual Report of the Inspectors of the State Prison at Auburn to the Legislature of the State of New York, January 13, 1841.

Number of convicts remaining in prison December 31, 1839		670
Number received during the year ending December 31, 1840		228
		898
Discharged during the year 1840 by expiration of sentence -	146	
" " " by pardon - - - - -	33	
" " " by death (in Hospital) - -	12	
" " " by death (suicide) - -	2	
" " " by removal to Sing Sing prison	10	203
Remaining December 31, 1840 - - - - - - -		695
		898

Dr. Erasmus Humphreys, physician and surgeon to the prison, presents, in his report, some interesting tables. He states first, all the hospital cases and the diseases; and secondly, all the cases of extraneous description, viz., such as

visited the hospital from day to day, and the diseases prescribed for. The following is a condensed view of both.

1840	Hospital Cases.	Reported Cases.
January - -	18	490
February - -	19	388
March - - -	27	394
April - - -	28	464
May - - -	38	349
June - - -	27	306
July - - -	18	269
August - - -	16	238
September - -	12	171
October - - -	15	173
November - -	14	145
December - -	11	124

The remarkable diminution in the number of extraneous prescriptions, or in other words, the increased health of the convicts, is ascribed principally, by Dr. Humphreys, to the plan recently adopted for warming the north wing of the prisons and the sleeping apartments therein. About five hundred convicts lodge in that wing, which was formerly heated by means of steam, conducted through a cast iron pipe. The force of the steam was such as frequently to burst the weak places in the pipe and thus allow it to escape. It hence filled the apartments either with vapour, water, or if the weather was sufficiently cold, with ice. Add to this, that the windows were all made tight, and closed, and certainly an atmosphere was induced sufficient to bring on disease. At present, heat is kept up by stoves and furnaces, and each convict is allowed two comfortables, with cotton batting quilted in them.

Erysipelas and ophthalmia have been prevalent diseases. There have been two cases of insanity, one produced by masturbation, the other insane on admission. Both have recovered.

The following is a table of the mortality of the prison for eleven years:

1830	18	1836	18
1831	15	1837	19
1832	12	1838	15
1833	11	1839	10
1834	11	1840	12
1835	10		

Total 151, and not 142 as stated by Dr. Humphreys. The annual average is hence 13.8.

Of those in 1840, there died of

Scrofula - - - - - - - - - - - -	1
Erysipelas - - - - - - - - - - - -	1
Erysipelas with lues and dropsy - - - - - - - - -	1
Pneumonia with hydrothorax - - - - - - - - -	1
Psoas abscess, ending in phthisis - - - - - - - - -	1
Phthisis pulmonalis - - - - - - - - - -	3
Fistula in ano, ending in phthisis - - - - - - - - -	1
Repeated attacks of pneumonia with spinal irritation, ending in phthisis - - - - - - - - - - -	1
Typhus putridus - - - - - - - - - - -	1
Lues venerea ending in phthisis - - - - - - - - -	1
Total	12

T. R. B.

Fourth Annual Report of the Trustees of the Vermont Asylum for the Insane. Presented to the Legislature, October, 1840. William H. Rockwell, M.D. Superintendent and Physician.

Patients at the close of the year, October 1, 1839	69
" admitted during the year	73
Total	142
Discharged during the year	61
Remaining October 1, 1480	81
Total	142

Of the 61 cases discharged, there have been

Recovered	33
Improved	13
Unimproved	8
Eloped	1
Died	6
Total	61

Of the 26 recent cases discharged, there have been

Recovered	23
Improved	1
Died	2
Total	26

Of the 35 chronic cases discharged, there have been

Recovered	10
Improved	12
Unimproved	8
Eloped	1
Died	4
Total	35

Recovered of all the cases discharged the past year 54 per cent. Recovered of all the old cases discharged the past year, 28½ per cent. Recovered of all the recent cases discharged the past year, 88⅓ per cent. Recovered of all the cases discharged, 56$\frac{3}{10}$ per cent. Recovered of all the old cases discharged, 28⅓ per cent. Recovered of all the recent cases discharged, 89 per cent.

The necessity of early admission is manifest from the above results. The physician also regrets the mistake, in many instances, of premature removal from the asylum.

Of the deaths, two were brought in the last stage of consumption; one lived twenty, and the other twenty-five days. Another was affected with the delirium of old age. He was greatly emaciated and unable to walk or feed himself; he was unconscious of the place of his residence, and regardless of the calls of nature. He died on the thirteenth day of his admission.

From the opening of the asylum, 239 patients have been admitted, and only eleven have died, amounting to less than five per cent.

The best moral means are found to be, useful employment in the open air; convalescents are more particularly benefited by it. Amusements are also allowed. Religious exercises are continued as heretofore.

The pecuniary affairs of this asylum are quite flourishing. The expenditures for the year ending October 1, 1840, were 9,473 67 dollars. The income from the board of patients, 9,926 86 dollars. T. R. B.

Convention of the Physicians of Kentucky.—A convention of the Physicians of the State of Kentucky, was held at Frankfort on the second Monday in January last, for the purpose of organizing State and District Medical Societies. The convention adopted a constitution and by-laws, with a system of medical etiquette, and made a praiseworthy movement in relation to medical education, by the adoption of the following preamble and resolutions.

" Whereas, deficiences are admitted to exist in the present system of Medical Education in the United States, impairing the dignity and usefulness of the

profession; and whereas, the remedy for this evil can be effectually applied by those only who have the training of students of medicine: Therefore,

"1. *Resolved*, That no physician ought to receive, as a pupil, any young man whose capacity, morals and preliminary education are not such as to afford fair promise of his becoming a respectable and useful member of the profession.

"2. *Resolved*, That the period of study required of pupils by the American Medical Schools ought to be extended; and that an extension of the Lecture term from four to six months would do much towards elevating the professional standard of the country.

"3. *Resolved*, That a convention of the Teachers in the Medical Schools of the United States be earnestly recommended, to take into consideration the means of promoting these objects."

—

Jefferson Medical College.—The faculty in this school has been entirely reorganized: the present occupants of the chairs are the following: Dr. J. K. Mitchell, Practice of Medicine; Dr. C. D. Meigs, Midwifery; Dr. T. D. Mütter, Surgery; Dr. R. Dunglison, Institutes of Medicine and Medical Jurisprudence; Dr. R. M. Huston, Materia Medica and General Therapeutics; Dr. J. Pancoast, Anatomy; Dr. F. Bache, Chemistry.

—

New York University.—A new Medical Faculty has been organized in this Institution, and the chairs filled as follows:—Dr. Mott, Surgery; Dr. Paine, Institutes of Medicine and Materia Medica; Dr. Revere, Theory and Practice of Medicine; Dr. Pattison, Anatomy; Dr. Bedford, Midwifery; Dr. Draper, Chemistry.

—

Transylvania University.—We are happy to announce that our colleague, Dr. E. Bartlett, has been appointed Professor of the Theory and Practice of Medicine in Transylvania University. Dr. Bartlett is a scholar, possesses ample stores of medical knowledge, and much experience as a teacher, and the appointment is alike honourable to him and advantageous to the school.

—

Medical College of the State of South Carolina—We learn that Dr. Geddings, Professor of Pathology and Medical Jurisprudence, has been transferred to the Surgical chair, vacated by Dr. Wagner in consequence of ill health. No better appointment could have been made.

—

Tweedie's Library of Practical Medicine.—Messrs. Lea & Blanchard have published the fifth volume of this work, which completes the series on Practical Medicine. This volume contains Dissertations on Hæmorrhages, Dropsy, Rheumatism, Gout, Scrofula, Worms, &c., followed by some admirable remarks on the art of prescribing, a formulary for extemporaneous prescriptions, and a general index.

—

Traill's *Medical Jurisprudence.*—Messrs. Lea & Blanchard have just published "*Outlines of a course of Lectures on Medical Jurisprudence*, By Thos. Stewart Traill, M. D. F. R. S., &c., Regius Prof. Med. Jurisp. & Med. Police in the University of Edinburgh, First American, from the second Edinburgh edition, revised with numerous notes." It is one of the most admirable compends we have ever met with; and comprises, in the smallest compass, all the leading principles of Medical Jurisprudence and Medical Police. Dr. Traill, in his introduction, which is devoted to a sketch of the history of Medical Jurisprudence, pronounces the work of our colleague, Dr. Beck, to be "the best one on the general subject which has appeared in the English language;" a compliment which is valuable, as coming from a perfectly competent and impartial judge.

To the members of the Legal, as well as of the Medical profession, the work of Dr. Traill will be extremely useful.

—

Climate of the United States.—Dr. Samuel Forry is preparing for publication, a work entitled "*The Climate of the United States and its Endemic Influences, based*

chiefly on the Records of the Medical Department and Adjutant General's Office, U. S. Army.—The articles relative to this subject from the same source, which have appeared in this Journal, afford conclusive evidence that the work will be an extremely interesting one.

—

Necrology.—The Medical Science of this country, has lost one of its brightest ornaments, in the death of Dr. Wm. P. Dewees, which took place in Philadelphia, May 18th, 1841. Dr. Dewees commenced practice at Abington, in the year 1789, and removed to Philadelphia, in 1796, where he remained until 1812. Ill health at this period, compelled him to remove to the country, and he fixed his residence at Phillipsburgh, Pennsylvania, where he remained until 1817, when he again returned to the city. In 1826 he was appointed adjunct Professor, and in 1834 Professor of Obstetrics and Diseases of Women and Children in the University of Pennsylvania. Early, in this last year, Dr. Dewees suffered an attack of paralysis, from which period his health became very much impaired. He however delivered a full course during the session of 1834-5, but at the commencement of the following session his health was so feeble as to compel him to resign his professorship and seek a Southern climate. After spending a winter in Cuba, and the succeeding summer at the North, he settled at Mobile. About a year since, he returned to Philadelphia, where he closed his long and useful career, at the age of 74 years and a few days, full of years and full of honour.

Dr. Dewees had an unusually large practice, and possessed extraordinary tact as a practitioner, with a just degree of confidence in himself, resulting from his vast experience, which led to implicit confidence in him on the part of his patients. As an accoucheur, he had indeed a more extensive experience than any other physician in this country, and in this department, he had few if any equals, and no superior.

Dr. Dewees's fame was not confined to this country. He was well known abroad by his writings, which have been more generally quoted by European authors, on obstetrics, than those of any other American physician, and his opinions are noticed with a degree of respect and deference, which evince that his authority ranks among the highest.

Dr. Dewees was too well known here, to require from us, on the present occasion, any further notice. We hope, however, ere long, to present, by a competent hand, a complete biographical memoir.

We will merely add the following testimony of respect, to his memory, paid by the Philadelphia Medical Society.

"At a meeting of the Medical Society, held on Friday, the 21st inst., Dr. B. H. Coates was called to the chair.

"Dr. Hays announced the death of Dr. W. P. Dewees, and offered the following resolutions, which were seconded by Dr. W. Poyntell Johnston, and unanimously adopted.

"*Resolved*, That the Society has heard with deep regret, of the decease of their late, much respected fellow-member and former Vice President, Dr. Wm. P. Dewees.

"*Resolved*, That Dr. Dewees, by his talents, labour, and honourable course through life, contributed materially to the advancement of our science, and to the elevation of professional character.

"*Resolved*, That in testimony of our respect for the deceased, the Society will, in a body, attend his funeral.

"*Resolved*, That Dr. H. L. Hodge, be requested to prepare and read before the Society, a memoir of Dr. Dewees.

"*Resolved*, That a committee be appointed, to express the feelings of the members to the family of Dr. Dewees, and to communicate to them a copy of the above resolutions.

"The chairman appointed Drs. Hodge, Hays, and Huston, a committee to to carry the preceding resolution into effect.

"*Resolved*, That the proceedings of the Society be published.

Samuel L. Hollingsworth, Jr., Rec. Sec."

UNIVERSITY OF PENNSYLVANIA.

At a Public Commencement, held April 2d, 1841, in the Musical Fund Hall, Locust Street, the Degree of Doctor of Medicine was conferred by the Rev. John Ludlow, D. D., Provost, &c., upon the following gentlemen.

An Address was then delivered by George B. Wood, M. D., Professor of Materia Medica.

NAMES.	RESIDENCE.	SUBJECT OF ESSAY.
Abernethy, Jesse J.	Tennessee,	Acute Dysentery.
Alrichs, John	Delaware,	Pertussis.
Anderson, Daniel B.	Tennessee,	Menstruation, and its concomitant diseases.
Anderson, Matthew P.	Virginia,	Bronchocele.
Anderson, Thomas	Maryland,	Intestinal Entezoa.
Askew, Andrew J.	North Carolina,	Acute Hepatitis.
Askew, Joseph R.	North Carolina,	Fracture of Clavicle.
Barrow, William	North Carolina,	Intestinal Worms.
Barstow, Jervis G.	Delaware,	Bilious Remittent Fever.
Baynard, George H.	Maryland,	Carcinoma.
Beach, William	New York,	Injuries of Head.
Beck, John E.	Alabama,	Chlorosis.
Bee, Ephraim J.	New Jersey,	Cranioscopy.
Berkey, Michael	Indiana,	Fecundation and Gestation.
Bliss, Chester T.	Pennsylvania,	Blood-letting.
Blount, Elias J.	North Carolina,	Scrofula.
Bobo, Charles D.	South Carolina,	Menstruation.
Boyd, Andrew T.	Tennessee,	Puerperal Peritonitis.
Boyd, James J.	South Carolina,	Sleep.
Briscoe, John	Virginia,	Miasmata.
Brooke, Alexander T.	Virginia,	Spermorrhea.
Brown, Benjamin L.	Illinois,	Tight-lacing.
Brown, Patrick W.	Virginia,	Hysterotomy.
Burruss, John L.	Virginia,	Coxalgia.
Butler, John D.	Virginia,	Influence of civic life.
Butt, Horace J.	Virginia,	Hernia.
Carter, Williams Jr.	Virginia,	Nephritis.
Cass, Abner S.	Ohio,	Scarlatina.
Clay, Eleazer G.	Virginia,	Fractures.
Coke, John A.	Virginia,	Apoplexy.
Collins, Allen T.	North Carolina,	Acute Dysentery.
Copeland, John B.	Tennessee,	Emetics.
Cornell, John F.	New York,	Blood-letting.
Corson, Joseph	Pennsylvania,	Immoveable apparatus in fracture of leg.
Craddock, Charles J.	Virginia,	Revolutions in the Theory and Practice of Medicine.
Croom, Richard H.	Alabama,	Fracture of Os Femoris.
Cummins, Robert H.	Pennsylvania,	Atmospheric Pressure.
Curran, John P.	Pennsylvania,	Variola.
Dandridge, Alexander S.	Virginia,	Variola Vaccina.
Darlington, Hilbern	Pennsylvania,	Stricture of Urethra.
Dickenshied, Charles H.	Pennsylvania,	Impotentia.
Drinker, Francis	Pennsylvania,	Physiology of Generation.
Easom, Andrew J.	Georgia,	Calomel and Opium.
Elliott, Thomas H.	Pennsylvania,	Physiological influence of Light.

NAMES.	RESIDENCE.	SUBJECT OF ESSAY.
Effinger, Michael	Ohio,	Delivery of Placenta.
Evans, M. F. T.	South Carolina,	Morbid tendencies as influenced by age.
Fleming, Robert F.	Phliadelphia,	Generation.
Foster, John T.	Alabama,	Quinia, &c.
Foulke, John L.	Pennsylvania,	Cancer.
Galt, John M.	Virginia,	Botany.
Garnett, Alexander Y. P.	Virginia,	Extra Uterine Gestation.
Garnett, John M.	Virginia,	Fractures.
Graff, George B. (M. D.)	Illinois,	Milk-sickness of the West.
Gray, John B.	Missouri,	Dysentery.
Haberacker, Henry J.	Pennsylvania,	Intermittent Fever.
Halsey, Benjamin F.	North Carolina,	Hepatitis.
Hall, Robert P.	North Carolina,	Cynanche Trachealis.
Hamilton, Patrick H.	Maryland,	Phthisis Pulmonalis.
Hammond, John F.	South Carolina,	Meningitis.
Harris, Christopher H.	Virginia,	Dothin-enteritis.
Harrison, Mathew M.	Virginia,	Gun-shot Wounds.
Helffenstein, Benjamin W.	Pennsylvania,	Inflammation.
Hendon, Benjamin F.	Alabama,	Atmospheric Air.
Hilsman, Josiah	Georgia,	Antimony.
Hobson, Thomas Jr.	Pennsylvania,	Hydrocephaloid complaints of children.
Holt, Harrison	Massachusetts,	Abortion.
Horsley, William A.	Virginia,	Revulsion.
House, Lemuel S.	Tennessee,	On Stays.
Howell, William F.	Alabama,	Medical Topography of Mobile.
Hundley, Thomas J.	Virginia,	Asthma.
Hunter, Charles H.	Pennsylvania,	Hæmorrhoids.
Hunting, Isaac M.	New York,	Opium.
Hurt, Jethro M.	Virginia,	Mental Derangenent.
Irish, Franklin	Ohio,	Sanguinaria Canadensis.
Jennings, William B.	Virginia,	Menstruation.
Johnson, George Jr.	Missouri,	Gun-shot Wounds.
Jones, Adolphus D.	North Carolina,	Ulcers.
Keim, Henry	Pennsylvania,	Diseases mistaken for Hernia.
Kello, Samuel B.	Virginia,	Acute Gastritis.
Lamar, Thomas C.	Georgia,	Cynanche Trachealis.
Lancaster, Joseph B.	Maryland,	Remittent Fever.
Latane, James H.	Virginia,	Dysentery.
Le Monnier, Y. R.	Louisiana,	Popliteal Aneurism.
Lewis, Willis	North Carolina,	Luxation of the Femur.
Logan, Joseph P.	Virginia,	Topical Blood-letting.
Low, James H.	Georgia,	Hydrocele.
Ludlow, J. Livingston	Pennsylvania,	Delirium Tremens.
Malone, Charles W.	Mississippi,	Fever of 1840.
Mann, Hugh C.	Virginia,	Luxations.
Martin, Charles L.	Pennsylvania,	Dysentery.
Masters, Joseph	North Carolina,	Acute Gastritis.
Mayfield, George A. J.	Tennessee,	Fœtal Malformation.
Mercer, Thomas N.	North Carolina,	Menstruation.
Michaux, Joseph	Virginia,	Croup.
Mitchell, James Jr.	Philadelphia,	Chemical history of Alcohol.
Moore, William J.	Virginia,	Phthisis Pulmonalis.

NAMES.	RESIDENCE.	SUBJECT OF ESSAY.
Mumford, Edward J.	Virginia,	Typhus Fever.
Mullen, Francis N.	North Carolina,	Primary Syphilis.
M'Cargo, William H.	Alabama,	Bilious Congestive Fever of Limestone County.
M'Clelland, Hugh K.	Pennsylvania,	Blood-letting.
M'Kinley, Edward	Philadelphia,	Cholera Infantum.
M'Knight, Lewis	New Jersey,	Vaccination.
M'Meens, Robert R.	Pennsylvania,	Nephritis.
M'Sherry, Richard Jr.	Virginia,	Iodine.
Nicholson, Guilford J. L.	North Carolina,	Cholera Morbus.
Parrish, John H.	Virginia,	Strabismus.
Pattillo, James A.	Virginia,	Colica Pictonum.
Perkins, Alexander H.	Virginia,	Intermittent Fever.
Perkins, Peter A.	Tennessee,	Atmospheric Influence.
Person, Benjamin F.	North Carolina,	Double Tertian Intermittent Fever.
Peticrew, David	Missouri,	Medical Topography of Chariton County, Missouri.
Price, James A.	North Carolina,	Loxarthrus.
Reedy, John A.	South Carolina,	Necrosis.
Richey, Robert T.	New Jersey,	Fungus Hæmatodes.
Ritchie, James	Mississippi,	Remittent Fever.
Rogers, Alexander H.	Virginia,	Arsenic.
Rosa, William V. V.	New York,	Diseases of Heart.
Ross, Francis A.	Alabama,	History, Pathology, and Treatment of Dothin-enteritis.
Rush, Lorenzo D.	Ohio,	Gonorrhœa.
Russell, Henry	Massachusetts,	Phthisis Pulmonalis.
Schoolfield, Joseph N.	Virginia,	Delirium Tremens.
Scott, Lawrence W.	North Carolina,	Unity of Man.
Selden, Henry	Virginia,	Typhoid State.
Shore, John	Virginia,	Cholera Infantum.
Smith, John N.	South Carolina,	Superfœtation.
Smith, Samuel S.	Mississippi,	Acute Rheumatism.
Smyth, James	Pennsylvania,	Hapatitis.
Snyder, Robert	Pennsylvania,	Nitrate of Silver.
Sorsby, Nicholas T.	Alabama,	Scarlatina.
Stewart, James R.	Maryland,	Delirium Tremens.
Stokes, Thomos J. P.	Pennsylvania,	Acute Gastritis.
Spratley, Benjamin C.	Virginia,	Acute Hepatitis.
Stringfellow, William H.	South Carolina,	Non-existence of Congestive Fever.
Summerell, William H.	Virginia,	Circulation of Blood.
Sutton, William J.	North Carolina,	Hydrargyrum.
Taylor, John N.	Virginia,	Dysentery.
Townsend, Richard H.	Pennsylvania,	Phthisis Pulmonalis.
Tutt, Samuel J.	Missouri,	Malaria.
Vanarsdale, Henry	New Jersey,	Physical Exploration.
Van Wyck, Cornelius C.	New York,	Use of Kreosote in Dyspepsia.
Waddell, J. Alexander	Virginia,	Nicotiana Tabacum.
Walker, Isaac R.	Pennsylvania,	Iron.
Walker, James C.	North Carolina,	Nourishment of Infants.
Waller, Nelson S.	Virginia,	Menorrhagia.
Washington, James R.	North Carolina,	Dropsical Effusions.
Watson, Arthur	Virginia,	Asthma.

NAMES.	RESIDENCE.	SUBJECT OF ESSAY.
Weatherly, Joseph	Maryland,	Leucorrhœa.
White, Edward H.	Maryland,	Apoplexy.
Williams, Lewis J.	Maryland,	Remittent Fever.
Winston, James B.	Virginia,	Uterine Hemorrhage.
Wood, James H.	North Carolina,	Dysentery.
Wood, William	Alabama,	Chronic Gastritis.
Wright, Weldon E.	North Carolina,	Traumatic Hemorrhage.
Yancey, Albert G.	North Carolina,	Dysentery.
Young, Walter B.	Mississippi,	Cataract.

At a Public Commencement held in July, 1840, the following gentlemen received the Degree of Doctor of Medicine.

NAMES.	RESIDENCE.	SUBJECT OF ESSAY.
Jonathan M. Allen,	Massachusetts,	Nervous System.
John Brinckerhoff,	New Jersey,	Terebinthina.
George C. Carrington,	Virginia,	Gastro-cutaneous Sympathy.
William L. Davis,	Georgia,	Luxations.
Thomas Randolph Hunt,	Virginia,	Apoplexy.
William W. Lewis,	Virginia,	Tabacum.
Richard T. Maxwell,	Delaware,	Acute Dysentery.
David Roberson,	Georgia,	Indigestion.
Daniel S. Triplett,	Virginia,	Nephritis.
Henry A. Vaughan,	Virginia,	Fever.
William W. Williamson,	Virginia,	Scarlatina.

TOTAL, 166.

W. E. HORNER, M. D., *Dean.*

TRANSYLVANIA UNIVERSITY—MEDICAL DEPARTMENT.

The Lectures in this Institution commence, as usual, on the first Monday in November, and close on the last day of February.

THE FACULTY CONSISTS OF

BENJ. W. DUDLEY, M. D., *Professor of Anatomy and Surgery.*
JAMES M. BUSH, M. D., *Adjunct Professor of Anatomy and Surgery.*
JAMES C. CROSS, M. D., *Professor of Institutes and Medical Jurisprudence.*
ELISHA BARTLETT, M. D., *Professor of Theory and Practice.*
W. H. RICHARDSON, M. D., *Professor of Obstetrics and Diseases of Women and Children.*
THOS. D. MITCHELL, M. D., *Professor of Materia Medica and Therapeutics.*
ROBERT PETER, M. D., *Professor of Chemistry and Pharmacy.*

The cost of a full course of Lectures is $105, payable in advance, in notes of good and solvent banks of the states whence the pupils come. The Matriculation and Library ticket is $5, and the Dissecting ticket $10. Graduation fee $20. Boarding and lodging (fuel and lights included) from $2 50 to $3 per week.

By order,

THOMAS D. MITCHELL, M. D., *Dean of the Faculty.*

Lexington, Ky., June 1, 1841.

JEFFERSON MEDICAL COLLEGE OF PHILADELPHIA.

SESSION OF 1841-42.

The regular Lectures will commence on the first Monday of November.

ROBLEY DUNGLISON, M. D., *Professor of Institutes of Medicine and Medical Jurisprudence.*

ROBERT M. HUSTON, M. D., *Professor of Materia Medica and General Therapeutics.*

JOSEPH PANCOAST, M. D., *Professor of General, Descriptive and Surgical Anatomy.*

J. K. MITCHELL, M. D., *Professor of Practice of Medicine.*

THOMAS D. MUTTER, M. D., *Professor of Institutes and Practice of Surgery.*

CHARLES D. MEIGS, M. D., *Professor of Obstetrics and Diseases of Women and Children.*

FRANKLIN BACHE, M. D., *Professor of Chemistry.*

On and after the first of October, the dissecting-room will be open, and the Professor of Anatomy will give his personal attendance thereto. Clinical instruction will likewise be given at the Dispensary of the College.

During the course, ample opportunities will be afforded for clinical instruction; Professors Dunglison, Huston, and Pancoast being medical officers of the Philadelphia Hospital; Professor Meigs of the Pennsylvania Hospital; and Professor Mütter, Surgeon to the Philadelphia Dispensary.

Professor Dunglison will lecture regularly on Clinical Medicine, and Professor Pancoast on Clinical Surgery, at the Philadelphia Hospital, throughout the course.

ROBERT M. HUSTON, M. D., *Dean of the Faculty.*

UNIVERSITY OF NEW YORK—MEDICAL DEPARTMENT.

The Lectures will commence on Monday, the 25th of October next, and continue until the ensuing March.

VALENTINE MOTT, M. D., *Professor of Surgery.*

GRANVILLE S. PATTISON, M. D., *Professor of Anatomy.*

JOHN REVERE, M. D., *Professor of Theory and Practice of Medicine.*

MARTYN PAINE, M. D., *Professor of Institutes of Medicine and Materia Medica.*

GUNNING S. BEDFORD, M. D., *Professor of Obstetrics, &c.*

JOHN WM. DRAPER, M. D., *Professor of Chemistry.*

JOHN W. DRAPER, M. D.,
Secretary of the Medical Faculty.

COLUMBIAN COLLEGE, DISTRICT OF COLUMBIA.

THE Lectures in the Medical Department of this institution will commence on the first Monday in November, annually, and continue until the 1st of March.

During this period, full courses will be delivered on the various branches of Medicine by

THOMAS SEWELL, M. D., *Professor of Pathology, and the Practice of Medicine.*

HARVEY LINDSLY, M. D., *Professor of Obstetrics, and the Diseases of Women and Children.*

THOMAS MILLER, M. D., *Professor af Anatomy and Physiology.*

JOHN M. THOMAS, M. D., *Professor of Materia Medica and Therapeutics.*

J. FREDERICK MAY, M. D., *Professor of Surgery; late Professor of Surgery in the University of Maryland.*

FREDERICK HALL, M. D., *Professor of Chemistry and Pharmacy.*
SAMUEL C. SMOOT, M. D., *Demonstrator of Anatomy.*

The Medical College is situated at the corner of 10th and E streets, equidistant from the Capitol and the President's House.

In the arrangements of this building, and the organization of the School, particular reference has been had to the study of *Practical Anatomy*, a branch which the student will enjoy peculiar facilities for cultivating.

The Professor of Pathology and Practice will illustrate the most important Pathological conditions of the System by means of Thibert's Pathological Models.

The Professor of Surgery will show all the operations upon the recent subject.

The Professor of Chemistry has a complete Chemical and Philosophical Apparatus.

The Professor of Obstetrics will illustrate his lectures by obstetrical apparatus, and an ample collection of preparations and drawings.

As there are many young men of talent and worth in different parts of our country, who, from restricted circumstances, are unable to avail themselves of the benefit of public lectures, the Professors have resolved to admit, gratuitously, two such students from each of the States, and one from each of the Territories. In order, however, to guard against individuals whose education and character do not qualify them to become useful members of the profession, the selection is placed in the hands of the Senators and Delegates of Congress, each of whom has the right to select one student from his respective State or Territory, and whose certificate of selection will be a passport to all the lectures, by paying only, on entering the school, the usual matriculating fee of five dollars.

The entire expense, for a course of Lectures by all the Professors, is $70. Dissecting Ticket $10; optional with the Student.

Good board can be procured at from three to four dollars per week.

THOMAS MILLER, M.D, *Dean of the Faculty.*

Washington, May 1, 1841.

DR. M'MUNNS CELEBRATED ELIXIR OF OPIUM

Is a new chemical preparation of Opium, embracing all the valuable medicinal qualities in a natural state of combination, to the exclusion of those which are deleterious and useless. It is superior to every other form of opiate, such as *Laudanum, Paregoric, Morphine, Denarcotised Laudanum, &c. &c.*, as has been fully proved and *now duly acknowledged* by the most eminent Physicians, Surgeons and Chemists, and a single trial will convince the most incredulous of its own intrinsic value. Its use is not followed by any of the disagreeable effects which invariably attend the ordinary preparations of opium, such as *constipation, headache, tremors, nausea*, and *vomiting;* but it may be taken in sufficient doses to allay all suffering with perfect safety and entire success. All who from necessity or other causes are obliged to use an opiate, will find in the Elixir a most gratifying substitute, as it invigorates all the powers of nature, without being followed by a corresponding state of depression. Dr. A. W. Ives, A. M. of New York city, used nearly a hundred ounces himself during a very painful and protracted illness after every thing else had failed to give relief. "His life was prolonged months by its peculiar virtues." For other similar communications, and its trial in hospitals, &c., see directions with the medicine.—Sold wholesale and retail by A. B. & D. Sands, No. 79 and 100 Fulton St., New York. Sold also by Chas. Ellis & Co., 56 Chesnut St., Philadelphia; G. K. Tyler and R. H. Coleman & Co., Baltimore; Haviland, Harrall and Allen, Charleston, S. C.; Haviland, Risby & Co., Augusta, Ga.; Sickles & Co., New Orleans; Brewers, Stevens & Cushing, 90 Washington St., Boston; also by T. Metcalf, Tremont Row, and S. W. Fowle, Prince St., Boston; J. Balch, Providence, Rhode Island; E. W. Bull, Hartford, Conn., and by most druggists in the United States. Price 25 cents.